

**Annual Administrative Code Supplement  
2001 Edition**

**DEPARTMENT OF NATURAL RESOURCES  
LAW ENFORCEMENT DIVISION  
WHOLESALE FISH DEALERS REPORT FORMS #9165**

**R 308.1**  
**Source:** 1987 AACS.

**LOCAL HUNTING AND FIREARMS CONTROLS**

**R 317.101.1**  
**Source:** 1981 AACS.

**R 317.108.2**  
**Source:** 1980 AACS.

**R 317.111.2**  
**Source:** 1983 AACS.

**R 317.123.1**  
**Source:** 1982 AACS.

**R 317.123.3**  
**Source:** 1982 AACS.

**R 317.123.4**  
**Source:** 1982 AACS.

**R 317.125.8**  
**Source:** 1984 AACS.

**R 317.135.2**  
**Source:** 1980 AACS.

**R 317.135.3**  
**Source:** 1984 AACS.

**R 317.138.2**  
**Source:** 1980 AACS.

**R 317.138.3**  
**Source:** 1980 AACS.

**R 317.147.8**  
**Source:** 1981 AACS.

**R 317.150.1**  
**Source:** 1982 AACS.

**R 317.150.5**  
**Source:** 1997 AACS.

**R 317.150.9**  
**Source:** 1985 AACS.

**R 317.150.10**

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**Source:** 1997 AACs.

**R 317.150.12**

**Source:** 1983 AACs.

**R 317.151.1**

**Source:** 1985 AACs.

**R 317.163.6**

**Source:** 1984 AACs.

**R 317.163.7**

**Source:** 1984 AACs.

**R 317.163.8**

**Source:** 1997 AACs.

**R 317.163.10**

**Source:** 1997 AACs.

**R 317.163.11**

**Source:** 1997 AACs.

**R 317.163.12**

**Source:** 1997 AACs.

**R 317.163.20**

**Source:** 1997 AACs.

**R 317.163.25**

**Source:** 1997 AACs.

**R 317.163.36**

**Source:** 1997 AACs.

**R 317.163.38**

**Source:** 1997 AACs.

**R 317.163.41**

**Source:** 1997 AACs.

**R 317.163.42**

**Source:** 1985 AACs.

**R 317.163.43**

**Source:** 1980 AACs.

**R 317.163.44**

**Source:** 1984 AACs.

**R 317.163.45**

**Source:** 1981 AACs.

**R 317.163.46**

**Source:** 1981 AACs.

**R 317.169.2**

**Source:** 1980 AACs.

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**R 317.171.3**  
**Source:** 1985 AACS.

**R 317.173.1**  
**Source:** 1985 AACS.

**R 317.173.3**  
**Source:** 1982 AACS.

**R 317.181.5**  
**Source:** 1982 AACS.

**R 317.182.1**  
**Source:** 1983 AACS.

**R 317.182.8**  
**Source:** 1980 AACS.

**R 317.182.9**  
**Source:** 1983 AACS.

**R 317.182.10**  
**Source:** 1983 AACS.

**R 317.182.11**  
**Source:** 1982 AACS.

**R 317.182.12**  
**Source:** 1982 AACS.

**MACKINAC ISLAND STATE PARK COMMISSION  
GENERAL RULES**

**PART 1. DEFINITIONS**

**R 318.119b**  
**Source:** 1997 AACS.

**PART 2. REGULATIONS**

**R 318.136**  
**Source:** 1982 AACS.

**R 318.145a**  
**Source:** 1997 AACS.

**R 318.146**  
**Source:** 1988 AACS.

**NATURAL RESOURCES COMMISSION  
RECREATION BOND PROGRAM**

**R 318.201**  
**Source:** 1989 AACS.

**R 318.202**

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**Source:** 1989 AACS.

**R 318.203**

**Source:** 1989 AACS.

**R 318.204**

**Source:** 1989 AACS.

**R 318.205**

**Source:** 1989 AACS.

**R 318.206**

**Source:** 1989 AACS.

**R 318.207**

**Source:** 1989 AACS.

**R 318.208**

**Source:** 1989 AACS.

**R 318.209**

**Source:** 1989 AACS.

**R 318.210**

**Source:** 1989 AACS.

**R 318.211**

**Source:** 1989 AACS.

**WILDERNESS AND NATURAL AREAS**

**R 322.3.1**

**Source:** 1988 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
LAND AND WATER MANAGEMENT  
GREAT LAKES SUBMERGED LANDS**

**R 322.1001**

**Source:** 1986 AACS.

**R 322.1002**

**Source:** 1982 AACS.

**R 322.1003**

**Source:** 1986 AACS.

**R 322.1004**

**Source:** 1982 AACS.

**R 322.1005**

**Source:** 1982 AACS.

**R 322.1006**

**Source:** 1982 AACS.

**R 322.1007**

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**Source:** 1982 AACS.

**R 322.1008**

**Source:** 1982 AACS.

**R 322.1009**

**Source:** 1982 AACS.

**R 322.1010**

**Source:** 1982 AACS.

**R 322.1011**

**Source:** 1986 AACS.

**R 322.1012**

**Source:** 1982 AACS.

**R 322.1013**

**Source:** 1986 AACS.

**R 322.1014**

**Source:** 1982 AACS.

**R 322.1015**

**Source:** 1982 AACS.

**R 322.1016**

**Source:** 1982 AACS.

**R 322.1017**

**Source:** 1982 AACS.

**R 322.1018**

**Source:** 1982 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**SURFACE WATER QUALITY DIVISION**

**GENERAL RULES**

**R 323.2 Rescinded.**

History: 1944 ACS 32; 1954 AC; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.4 Rescinded.**

History: 1944 ACS 32; 1954 AC; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.5 Rescinded.**

History: 1944 ACS 32; 1954 AC; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.8 Rescinded.**

History: 1944 ACS 32; 1954 AC; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.9 Rescinded.**

History: 1944 ACS 32; 1954 AC; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

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**DEPARTMENT OF NAUTURAL RESOURCES  
NATURAL RESOURCES COMMISSION  
STATE REVOLVING LOAN FUND**

**R 323.951**  
**Source:** 1989 AACS.

**R 323.952**  
**Source:** 1989 AACS.

**R 323.953**  
**Source:** 1989 AACS.

**R 323.954**  
**Source:** 1989 AACS.

**R 323.955**  
**Source:** 1989 AACS.

**R 323.956**  
**Source:** 1989 AACS.

**R 323.957**  
**Source:** 1989 AACS.

**R 323.958**  
**Source:** 1989 AACS.

**R 323.959**  
**Source:** 1989 AACS.

**R 323.960**  
**Source:** 1989 AACS.

**R 323.961**  
**Source:** 1989 AACS.

**R 323.962**  
**Source:** 1989 AACS.

**R 323.963**  
**Source:** 1989 AACS.

**R 323.964**  
**Source:** 1989 AACS.

**R 323.965**  
**Source:** 1989 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER RESOURCES PROTECTION  
PART 1. GENERAL PROVISIONS**

**R 323.1001 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

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**R 323.1003 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1009 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**PART 2. ORGANIZATION, OPERATIONS, PROCEDURES, AND HEARINGS**

**R 323.1011 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; 1988 MR 6, Eff. July 16, 1988; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1012 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; 1988 MR 6, Eff. July 16, 1988; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1014**

**Source:** 1997 AACS.

**R 323.1015 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; 1988 MR 6, Eff. July 16, 1988; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1017 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; 1988 MR 6, Eff. July 16, 1988; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1018**

**Source:** 1997 AACS.

**R 323.1021 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; 1988 MR 6, Eff. July 16, 1988; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1022 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1025 Rescinded.**

History: 1954 ACS 72, Eff. June 22, 1972; 1979 AC; 1988 MR 6, Eff. July 16, 1988; rescinded 2001 MR 23, Eff. Dec. 14, 2001.

**R 323.1027**

**Source:** 1997 AACS.

**R 323.1031**

**Source:** 1997 AACS.

**R 323.1032**

**Source:** 1997 AACS.

**R 323.1033**

**Source:** 1997 AACS.

**R 323.1034**

**Source:** 1997 AACS.

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**R 323.1035**  
**Source:** 1997 AACS.

**R 323.1036**  
**Source:** 1997 AACS.

**R 323.1038**  
**Source:** 1997 AACS.

**PART 4. WATER QUALITY STANDARDS**

**R 323.1041**  
**Source:** 1994 AACS.

**R 323.1043**  
**Source:** 1998-2000 AACS.

**R 323.1044**  
**Source:** 1997 AACS.

**R 323.1050**  
**Source:** 1986 AACS.

**R 323.1051**  
**Source:** 1984 AACS.

**R 323.1053**  
**Source:** 1986 AACS.

**R 323.1055**  
**Source:** 1986 AACS.

**R 323.1057**  
**Source:** 1997 AACS.

**R 323.1058**  
**Source:** 1986 AACS.

**R 323.1060**  
**Source:** 1986 AACS.

**R 323.1062**  
**Source:** 1994 AACS.

**R 323.1064**  
**Source:** 1986 AACS.

**R 323.1065**  
**Source:** 1986 AACS.

**R 323.1070**  
**Source:** 1986 AACS.

**R 323.1074**  
**Source:** 1997 AACS.

**R 323.1075**  
**Source:** 1986 AACS.



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**R 323.1080**

**Source:** 1997 AACS.

**R 323.1082**

**Source:** 1997 AACS.

**R 323.1090**

**Source:** 1997 AACS.

**R 323.1091**

**Source:** 1997 AACS.

**R 323.1092**

**Source:** 1986 AACS.

**R 323.1096**

**Source:** 1986 AACS.

**R 323.1097**

**Source:** 1986 AACS.

**R 323.1098**

**Source:** 1998-2000 AACS.

**R 323.1099**

**Source:** 1997 AACS.

**R 323.1100**

**Source:** 1998-2000 AACS.

**R 323.1103**

**Source:** 1997 AACS.

**R 323.1110**

**Source:** 1997 AACS.

**R 323.1115**

**Source:** 1997 AACS.

**R 323.1116**

**Source:** 1998-2000 AACS.

**R 323.1117**

**Source:** 1997 AACS.

**PART 5. SPILLAGE OF OIL AND POLLUTING MATERIALS**

**R 323.1151 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1152 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1153 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1154 Rescinded.**

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History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1155 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1156 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1157 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1158 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1159 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1162 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1163 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1164 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**R 323.1169 Rescinded.**

History: 1954 ACS 75, Eff. Mar. 22, 1973; 1979 AC; rescinded 2001 MR 16, Eff. Aug 31, 2001.

**PART 8. WATER QUALITY-BASED EFFLUENT LIMIT DEVELOPMENT FOR TOXIC SUBSTANCES**

**R 323.1201**

**Source:** 1997 AACS.

**R 323.1203**

**Source:** 1997 AACS.

**R 323.1205**

**Source:** 1997 AACS.

**R 323.1207**

**Source:** 1997 AACS.

**R 323.1209**

**Source:** 1997 AACS.

**R 323.1211**

**Source:** 1997 AACS.

**R 323.1213**

**Source:** 1997 AACS.

**R 323.1217**

**Source:** 1997 AACS.

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**R 323.1219**  
**Source:** 1997 AACS.

**R 323.1221**  
**Source:** 1997 AACS.

**PART 9. WASTEWATER REPORTING**

**R 323.1231**  
**Source:** 1997 AACS.

**R 323.1232**  
**Source:** 1997 AACS.

**R 323.1233**  
**Source:** 1997 AACS.

**R 323.1234**  
**Source:** 1997 AACS.

**R 323.1235**  
**Source:** 1997 AACS.

**R 323.1236**  
**Source:** 1997 AACS.

**R 323.1237**  
**Source:** 1997 AACS.

**R 323.1238**  
**Source:** 1997 AACS.

**R 323.1239**  
**Source:** 1997 AACS.

**R 323.1240**  
**Source:** 1997 AACS.

**R 323.1241**  
**Source:** 1997 AACS.

**R 323.1242**  
**Source:** 1997 AACS.

**PART 11. CONSTRUCTION GRANTS FOR WASTEWATER TREATMENT WORKS**

**R 323.1271**  
**Source:** 1998-2000 AACS.

**R 323.1272**  
**Source:** 1998-2000 AACS.

**R 323.1273**  
**Source:** 1998-2000 AACS.

**R 323.1274**  
**Source:** 1998-2000 AACS.

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**R 323.1275**  
**Source:** 1998-2000 AACS.

**R 323.1276**  
**Source:** 1998-2000 AACS.

**R 323.1277**  
**Source:** 1998-2000 AACS.

**R 323.1278**  
**Source:** 1998-2000 AACS.

**R 323.1279**  
**Source:** 1998-2000 AACS.

**R 323.1280**  
**Source:** 1998-2000 AACS.

**R 323.1281**  
**Source:** 1998-2000 AACS.

**R 323.1282**  
**Source:** 1998-2000 AACS.

**R 323.1283**  
**Source:** 1998-2000 AACS.

**R 323.1284**  
**Source:** 1998-2000 AACS.

**R 323.1285**  
**Source:** 1998-2000 AACS.

**R 323.1286**  
**Source:** 1998-2000 AACS.

**R 323.1287**  
**Source:** 1998-2000 AACS.

**R 323.1288**  
**Source:** 1998-2000 AACS.

**PART 13. FLOODPLAINS AND FLOODWAYS**

**R 323.1311**  
**Source:** 1996 AACS.

**R 323.1312**  
**Source:** 1996 AACS.

**R 323.1313**  
**Source:** 1984 AACS.

**R 323.1314**  
**Source:** 1998-2000 AACS.

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**R 323.1315**

**Source:** 1998-2000 AACS.

**R 323.1316**

**Source:** 1996 AACS.

**R 323.1329**

**Source:** 1996 AACS.

**PART 17. SOIL EROSION AND SEDIMENTATION CONTROL**

**R 323.1701**

**Source:** 1998-2000 AACS.

**R 323.1702**

**Source:** 1998-2000 AACS.

**R 323.1703**

**Source:** 1998-2000 AACS.

**R 323.1704**

**Source:** 1998-2000 AACS.

**R 323.1705**

**Source:** 1998-2000 AACS.

**R 323.1706**

**Source:** 1998-2000 AACS.

**R 323.1707**

**Source:** 1998-2000 AACS.

**R 323.1708**

**Source:** 1998-2000 AACS.

**R 323.1709**

**Source:** 1998-2000 AACS.

**R 323.1710**

**Source:** 1998-2000 AACS.

**R 323.1711**

**Source:** 1998-2000 AACS.

**R 323.1712**

**Source:** 1998-2000 AACS.

**R 323.1713**

**Source:** 1998-2000 AACS.

**R 323.1714**

**Source:** 1998-2000 AACS.

**PART 21. WASTEWATER DISCHARGE PERMITS**

**Annual Administrative Code Supplement**  
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- R 323.2102**  
Source: 1992 AACs.
- R 323.2103**  
Source: 1992 AACs.
- R 323.2104**  
Source: 1992 AACs.
- R 323.2109**  
Source: 1992 AACs.
- R 323.2159**  
Source: 1985 AACs.
- R 323.2161**  
Source: 1992 AACs.
- R 323.2162**  
Source: 1997 AACs.
- R 323.2163—R 323.2170**  
Source: 1997 AACs.
- R 323.2164**  
Source: 1997 AACs.
- R 323.2165**  
Source: 1997 AACs.
- R 323.2166**  
Source: 1997 AACs.
- R 323.2167**  
Source: 1997 AACs.
- R 323.2168**  
Source: 1997 AACs.
- R 323.2169**  
Source: 1997 AACs.
- R 323.2170**  
Source: 1997 AACs.
- R 323.2172**  
Source: 1997 AACs.
- R 323.2173**  
Source: 1997 AACs.
- R 323.2174**  
Source: 1997 AACs.
- R 323.2175**  
Source: 1997 AACs.
- R 323.2176**  
Source: 1997 AACs.

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**R 323.2177**

**Source:** 1997 AACS.

**R 323.2178**

**Source:** 1997 AACS.

**R 323.2179**

**Source:** 1997 AACS.

**R 323.2180**

**Source:** 1997 AACS.

**R 323.2181**

**Source:** 1997 AACS.

**R 323.2182**

**Source:** 1997 AACS.

**R 323.2183**

**Source:** 1997 AACS.

**R 323.2184**

**Source:** 1997 AACS.

**R 323.2185**

**Source:** 1997 AACS.

**R 323.2186**

**Source:** 1997 AACS.

**R 323.2189**

**Source:** 1995 AACS.

**R 323.2190**

**Source:** 1992 AACS.

**R 323.2191**

**Source:** 1992 AACS.

**R 323.2192**

**Source:** 1992 AACS.

**R 323.2193**

**Source:** 1998-2000 AACS.

**R 323.2194**

**Source:** 1998-2000 AACS.

**R 323.2195**

**Source:** 1998-2000 AACS.

**PART 22. GROUNDWATER QUALITY**

**R 323.2201**

**Source:** 1998-2000 AACS.

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**R 323.2202**  
**Source:** 1998-2000 AACS.

**R 323.2203**  
**Source:** 1998-2000 AACS.

**R 323.2204**  
**Source:** 1998-2000 AACS.

**R 323.2205**  
**Source:** 1998-2000 AACS.

**R 323.2206**  
**Source:** 1998-2000 AACS.

**R 323.2207**  
**Source:** 1998-2000 AACS.

**R 323.2208**  
**Source:** 1998-2000 AACS.

**R 323.2209**  
**Source:** 1998-2000 AACS.

**R 323.2210**  
**Source:** 1998-2000 AACS.

**R 323.2211**  
**Source:** 1998-2000 AACS.

**R 323.2212**  
**Source:** 1998-2000 AACS.

**R 323.**  
**Source:** 1998-2000 AACS.

**R 323.2214**  
**Source:** 1998-2000 AACS.

**R 323.2215**  
**Source:** 1998-2000 AACS.

**R 323.2216**  
**Source:** 1998-2000 AACS.

**R 323.2217**  
**Source:** 1998-2000 AACS.

**R 323.2218**  
**Source:** 1998-2000 AACS.

**R 323.2219**  
**Source:** 1998-2000 AACS.

**R 323.2220**  
**Source:** 1998-2000 AACS.



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**R 323.2221**

**Source:** 1998-2000 AACS.

**R 323.2222**

**Source:** 1998-2000 AACS.

**R 323.2223**

**Source:** 1998-2000 AACS.

**R 323.2224**

**Source:** 1998-2000 AACS.

**R 323.2225**

**Source:** 1998-2000 AACS.

**R 323.2226**

**Source:** 1998-2000 AACS.

**R 323.2227**

**Source:** 1998-2000 AACS.

**R 323.2229**

**Source:** 1998-2000 AACS.

**R 323.2230**

**Source:** 1998-2000 AACS.

**R 323.2231**

**Source:** 1998-2000 AACS.

**R 323.2232**

**Source:** 1998-2000 AACS.

**R 323.2233**

**Source:** 1998-2000 AACS.

**R 323.2234**

**Source:** 1998-2000 AACS.

**R 323.2235**

**Source:** 1998-2000 AACS.

**R 323.2237**

**Source:** 1998-2000 AACS.

**R 323.2238**

**Source:** 1998-2000 AACS.

**R 323.2240**

**Source:** 1998-2000 AACS.

**PART 23. PRETREATMENT**

**R 323.2301**

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**Source:** 1995 AACS.

**R 323.2302**

**Source:** 1995 AACS.

**R 323.2303**

**Source:** 1995 AACS.

**R 323.2304**

**Source:** 1995 AACS.

**R 323.2305**

**Source:** 1995 AACS.

**R 323.2306**

**Source:** 1995 AACS.

**R 323.2307**

**Source:** 1995 AACS.

**R 323.2308**

**Source:** 1995 AACS.

**R 323.2309**

**Source:** 1995 AACS.

**R 323.2310**

**Source:** 1995 AACS.

**R 323.2311**

**Source:** 1995 AACS.

**R 323.2312**

**Source:** 1995 AACS.

**R 323.2313**

**Source:** 1995 AACS.

**R 323.2314**

**Source:** 1995 AACS.

**R 323.2315**

**Source:** 1995 AACS.

**R 323.2316**

**Source:** 1995 AACS.

**R 323.2317**

**Source:** 1995 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**SURFACE WATER QUALITY DIVISION**

**WATER RESOURCES PROTECTION**

**PART 24. LAND APPLICATION OF BIOSOLIDS**

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**R 323.2401**

**Source:** 1998-2000 AACS.

**R 323.2402**

**Source:** 1998-2000 AACS.

**R 323.2403**

**Source:** 1998-2000 AACS.

**R 323.2404**

**Source:** 1998-2000 AACS.

**R 323.2405**

**Source:** 1998-2000 AACS.

**R 323.2406**

**Source:** 1998-2000 AACS.

**R 323.2407**

**Source:** 1998-2000 AACS.

**R 323.2408**

**Source:** 1998-2000 AACS.

**R 323.2409**

**Source:** 1998-2000 AACS.

**R 323.2410**

**Source:** 1998-2000 AACS.

**R 323.2411**

**Source:** 1998-2000 AACS.

**R 323.2412**

**Source:** 1998-2000 AACS.

**R 323.2413**

**Source:** 1998-2000 AACS.

**R 323.2414**

**Source:** 1998-2000 AACS.

**R 323.2415**

**Source:** 1998-2000 AACS.

**R 323.2416**

**Source:** 1998-2000 AACS.

**R 323.2417**

**Source:** 1998-2000 AACS.

**R 323.2418**

**Source:** 1998-2000 AACS.

**GEOLOGICAL SURVEY DIVISION**

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**OIL AND GAS OPERATIONS**

**PART 1. GENERAL PROVISIONS**

**R 324.101**

**Source:** 1996 AACs.

**R 324.102 Definitions; A to M.**

Rule 102. As used in these rules:

- (a) "Act" means Act No. 451 of the Public Acts of 1994, as amended, being §324.101 et seq. of the Michigan Compiled Laws.
- (b) "ANSI" means the American national standards institute.
- (c) "API" means the American petroleum institute.
- (d) "Authorized representative of the supervisor" means a department of environmental quality employee who is charged with the responsibility for implementation of the act or rules.
- (e) "Blowout prevention equipment" means a casinghead control device designed to control the flow of fluids from the well bore by closing around the drill pipe or production tubing or completely sealing the hole in the absence of drill pipe or production tubing.
- (f) "Brine" means all nonpotable water resulting, obtained, or produced from the exploration, drilling, or production of oil or gas, or both.
- (g) "Central production facility" means production equipment which has been consolidated at a central location that provides for the commingling of oil or gas production, or both, from 2 or more wells or production units of diverse ownership or from 2 or more prorated wells or production units.
- (h) "Conformance bond" means a surety bond that has been executed by a surety company authorized to do business in the state of Michigan, cash, certificates of deposit, letters of credit, or other securities that are filed by a person and accepted by the supervisor to ensure compliance with the act, these rules, permit conditions, instructions, orders of the supervisor, or an order of the department of environmental quality.
- (i) "Development well" means a well which has as its objective an oil or gas pool known to be, or have been, productive through the discovery well of the oil or gas pool and which is located either within a 2-mile radius of the discovery well or on the same structure as the discovery well.
- (j) "Directionally drilled well" means a well purposely deviated from the vertical using controlled angles to reach an objective location.
- (k) "Discovery well" means a well that discovers a new and previously untapped oil or gas pool. A discovery well may open up a new field or it may locate a previously unknown oil or gas pool in an old field.
- (l) "Drilling completion" means the time when a well has reached its permitted depth or the supervisor has determined drilling has ceased.
- (m) "Drilling unit" means the area prescribed by an applicable well spacing rule or order for the granting of a permit for the drilling and operation of a well.
- (n) "Facility piping" means piping that connects any of the following:
  - (i) Compressors.
  - (ii) Flares.
  - (iii) Loadouts.
  - (iv) Separators.
  - (v) Storage tanks.
  - (vi) Transfer pumps.
  - (vii) Treatment equipment.
  - (viii) Vents.
- (o) "Fence" means a structure which is designed to deter access and which consists of not less than 2 strands of barbed wire, 1 strand being approximately 18 inches above the ground and the other strand being approximately 42 inches above the ground, secured to supporting posts or means an equivalent structure that deters access.
- (p) "Final completion" means the time when locating, drilling, deepening, converting, operating, producing, reworking, plugging, and proper site restoration have been performed on a well in a manner approved by the

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supervisor, including the filing of the mandatory records, and when the conformance bond has been released.

(q) "Flow line" means piping that connects a well or wells to a surface facility.

(r) "Fresh water" means water which is free of contamination in concentrations that may cause disease or harmful physiological effects and which is safe for human consumption.

(s) "Gas storage" means the use of a depleted oil or gas pool, salt cavern, or other porous strata utilized for the purpose of injecting and withdrawing gas from the depleted oil or gas pool, salt cavern, or other porous strata.

(t) "Gathering line" means a pipeline that transports natural gas from a surface facility to a transmission pipeline.

(u) "Geologist" means a person who is certified as a geologist by a credible geological professional association or who, by reason of his or her knowledge of the natural sciences, mathematics, and the principles of geology acquired by professional education and practical experience, is qualified to engage in the practice of the science of geology.

(v) "Groundwater" means water below the land surface in the zone of saturation.

(w) "Injection well" means a well used to dispose of, into underground strata, waste fluids produced incidental to oil and gas operations or a well used to inject water, gas, air, brine, or other fluids for the purpose of increasing the ultimate recovery of hydrocarbons from a reservoir or for the storage of hydrocarbons.

(x) "Instruction" means a written statement of general applicability which is issued by the supervisor, which conforms with the act and rules promulgated pursuant to the act, and which clarifies or explains the applicability of the act or rules to commonly recurring facts or circumstances.

(y) "Multiple zone completion" means a well constructed and operated to separately produce oil or gas, or both, from more than 1 reservoir through 1 well bore.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.103**

**Source:** 1996 AACS.

**R 324.104**

**Source:** 1996 AACS.

**R 324.199**

**Source:** 1996 AACS.

**PART 2. PERMITS TO DRILL AND OPERATE**

**R 324.201**

**Source:** 1996 AACS.

**R 324.202**

**Source:** 1996 AACS.

**R 324.203**

**Source:** 1996 AACS.

**R 324.204**

**Source:** 1996 AACS.

**R 324.205**

**Source:** 1996 AACS.

**R 324.206**

**Source:** 1996 AACS.

**R 324.207**

**Source:** 1996 AACS.

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**R 324.208**  
**Source:** 1996 AACS.

**R 324.209**  
**Source:** 1996 AACS.

**R 324.210**  
**Source:** 1996 AACS.

**R 324.211**  
**Source:** 1996 AACS.

**R 324.212**  
**Source:** 1996 AACS.

**R 324.213**  
**Source:** 1996 AACS.

**R 324.214**  
**Source:** 1996 AACS.

**R 324.215**  
**Source:** 1996 AACS.

**R 324.216**  
**Source:** 1996 AACS.

**PART 3. SPACING AND LOCATION OF WELLS**

**R 324.301**  
**Source:** 1996 AACS.

**R 324.302**  
**Source:** 1996 AACS.

**R 324.303**  
**Source:** 1996 AACS.

**R 324.304**  
**Source:** 1996 AACS.

**PART 4. DRILLING AND WELL CONSTRUCTION**

**R 324.401**  
**Source:** 1996 AACS.

**R 324.402**  
**Source:** 1996 AACS.

**R 324.403**  
**Source:** 1996 AACS.

**R 324.404**  
**Source:** 1996 AACS.

**R 324.405**  
**Source:** 1996 AACS.

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**R 324.406**

**Source:** 1996 AACS.

**R 324.407**

**Source:** 1996 AACS.

**R 324.408**

**Source:** 1996 AACS.

**R 324.409**

**Source:** 1996 AACS.

**R 324.410**

**Source:** 1996 AACS.

**R 324.411**

**Source:** 1996 AACS.

**R 324.412**

**Source:** 1996 AACS.

**R 324.413**

**Source:** 1996 AACS.

**R 324.414**

**Source:** 1996 AACS.

**R 324.415**

**Source:** 1996 AACS.

**R 324.416 Well records; service company records; confidentiality.**

Rule 416. (1) A person who drills, deepens, changes well status, or completes a well under R324.201, R 324.420, R 324.511, or rules that were in effect before the effective date of these rules shall keep and preserve at the well, during drilling, deepening, changes in well status, or completion operations, accurate records recording all geologic strata penetrated, casing and cement used, and other information as may be required by the supervisor in connection with the drilling of the well.

(2) When requested by the supervisor or authorized representative of the supervisor, a permittee of a well shall file a copy of service company records, including records of all of the following:

- (a) Mudding, cementing, and squeeze operations.
- (b) Acidizing.
- (c) Perforating.
- (d) Fracturing.
- (e) Shooting.
- (f) Temperature surveys.
- (g) Bond logs.
- (h) Caliper surveys.
- (i) Wireline borehole and strata evaluation logs.

The supervisor may request the records directly from the service company.

(3) A permittee of a well shall make all records and information available to the supervisor or authorized representative of the supervisor at all times. A permittee shall protect the records from damage or destruction due to a preventable cause. All well data and samples provided to the supervisor or authorized representative of the supervisor as required by these rules shall be held confidential commencing with the receipt of a written request of the permittee and shall remain confidential for 90 days after drilling completion. Information on volumes, concentrations, and times of releases, spills, or leaks of gas, brine, crude oil, oil or gas field waste, or products and chemicals used in association with oil and gas exploration, production, disposal, or development is not subject to confidentiality.

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History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.417**

**Source:** 1996 AACS.

**R 324.418**

**Source:** 1996 AACS.

**R 324.419**

**Source:** 1996 AACS.

**R 324.420**

**Source:** 1996 AACS.

**R 324.421**

**Source:** 1996 AACS.

**R 324.422**

**Source:** 1996 AACS.

**PART 5. COMPLETION AND OPERATION**

**R 324.501**

**Source:** 1996 AACS.

**R 324.502**

**Source:** 1996 AACS.

**R 324.503**

**Source:** 1996 AACS.

**R 324.504 Well sites and surface facilities.**

Rule 504. (1) A person shall use every reasonable precaution to stop and prevent waste. All wells, surface facilities, gathering lines, and flow lines shall be constructed and operated so that the materials contained in the facilities do not cause waste. An operation shall not be commenced or continued at a location where it is likely that a substance may escape in a quantity sufficient to pollute the air, soil, surface waters, or groundwaters or to cause unnecessary endangerment of public health, safety, or welfare until the permittee has complied with the methods and means to prevent pollution or eliminate the unnecessary endangerment of public health, safety, or welfare as specified by the supervisor.

(2) The surface facilities shall be located not less than 300 feet from all of the following:

- (a) Existing recorded freshwater wells and reasonably identifiable freshwater wells utilized for human consumption.
- (b) Existing structures used for public or private occupancy.
- (c) Existing areas maintained for public recreation.
- (d) The edge of the traveled portion of an existing interstate, United States, or state highway. Pump jacks are exempt from this requirement.

(3) Surface facilities may be located closer than 300 feet from existing recorded freshwater wells and reasonably identifiable freshwater wells utilized for human consumption and existing structures used for public or private occupancy under either of the following conditions:

- (a) Upon presentation to the supervisor of a written consent signed by the owner or owners of all existing recorded freshwater wells and reasonably identifiable freshwater wells utilized for human consumption and existing structures used for public or private occupancy.
- (b) After a hearing under part 12 of these rules, the supervisor determines that the surface facility location will prevent waste, protect environmental values, and not compromise public safety.

(4) A permittee of a well shall not begin the installation of a surface facility or flow line without approval of



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the supervisor or authorized representative of the supervisor. A permittee shall make a written request for approval to construct and operate or to substantially reconstruct and operate a surface facility or flow line and shall file the request with the supervisor. The request may be filed with the application for a permit to drill and operate a well. The request shall have a detailed description and plan of the proposed facility, which shall include all of the following information:

- (a) An environmental impact assessment if the surface facility is located more than 300 feet from the well or wells it serves.
- (b) The location of the proposed surface facility or flow line.
- (c) Identification of the well or wells to be connected to the surface facility or flow line.
- (d) Reasonable and necessary measures to protect environmental values associated with existing adjacent land uses, including berming, screening, and access road location.
- (e) Information relative to the approximate distances and directions from the surface facility or flow line to special hazards or conditions identified in R 324.201(2)(b)(iv).
- (5) Upon receipt of a written request for approval to construct and operate or to substantially reconstruct and operate a surface facility or flow line under subrule (4) of this rule, other than a request to construct and operate a surface facility or flow line made as part of an application for permit to drill and operate a well, then the supervisor or authorized representative of the supervisor shall have up to 30 days to review the request to determine if the request is accurate and complete. If the request is determined to be inaccurate or incomplete, the supervisor or authorized representative of the supervisor shall provide, within the 30-day period, to the person making the request, a notice that the request is inaccurate or incomplete and what changes or additional information shall be submitted. Upon receipt of the requested information, the supervisor or authorized representative of the supervisor shall have up to an additional 15 days to review the information to determine if the request is accurate and complete. Upon completion of the review process, the supervisor or authorized representative of the supervisor shall approve or deny the request within 10 business days. A request shall be approved if the supervisor determines that construction and operation of the proposed surface facility or flow line will prevent waste, protect environmental values, and not compromise public safety. Upon approval by the supervisor or authorized representative of the supervisor, a request made under this rule shall become part of, and subject to, the provisions of the permit to drill and operate the well or wells served by the surface facility.
- (6) A person or permittee of a well shall not install a gathering line, carrying gas with more than 300 ppm hydrogen sulfide or a flow line or facility piping carrying gas from a class I H<sub>2</sub>S well and that is subject to a maximum working pressure in excess of 125 psig that does not meet the construction requirements in R 324.1130.
- (7) Surface facilities constructed after November 15, 1989, shall have secondary containment under R 324.1002.
- (8) If discharges to the air, surface waters, or groundwater of the state are likely to occur at a surface facility, a permittee shall apply for and obtain all necessary state and federal discharge permits before operating the surface facility.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.505**

**Source:** 1996 AACs.

**R 324.506**

**Source:** 1996 AACs.

**R 324.507**

**Source:** 1996 AACs.

**R 324.508**

**Source:** 1996 AACs.

**R 324.509**

**Source:** 1996 AACs.

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**R 324.510**

**Source:** 1996 AACS.

**R 324.511**

**Source:** 1996 AACS.

**PART 6. PRODUCTION AND PRORATION**

**R 324.601**

**Source:** 1996 AACS.

**R 324.602**

**Source:** 1996 AACS.

**R 324.603**

**Source:** 1996 AACS.

**R 324.604**

**Source:** 1996 AACS.

**R 324.605**

**Source:** 1996 AACS.

**R 324.606**

**Source:** 1996 AACS.

**R 324.607**

**Source:** 1996 AACS.

**R 324.608**

**Source:** 1996 AACS.

**R 324.609**

**Source:** 1996 AACS.

**R 324.610**

**Source:** 1996 AACS.

**R 324.611**

**Source:** 1996 AACS.

**R 324.612**

**Source:** 1996 AACS.

**R 324.613**

**Source:** 1996 AACS.

**PART 7. DISPOSAL OF OIL OR GAS FIELD WASTE, OR BOTH**

**R 324.701**

**Source:** 1996 AACS.

**R 324.702**

**Source:** 1996 AACS.

**R 324.703**

**Source:** 1996 AACS.

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**R 324.704**

**Source:** 1996 AACS.

**R 324.705**

**Source:** 1996 AACS.

**PART 8. INJECTION WELLS**

**R 324.801**

**Source:** 1996 AACS.

**R 324.802**

**Source:** 1996 AACS.

**R 324.803**

**Source:** 1996 AACS.

**R 324.804**

**Source:** 1996 AACS.

**R 324.805**

**Source:** 1996 AACS.

**R 324.806**

**Source:** 1996 AACS.

**R 324.807**

**Source:** 1996 AACS.

**R 324.808**

**Source:** 1996 AACS.

**PART 9. PLUGGING**

**R 324.901**

**Source:** 1996 AACS.

**R 324.902**

**Source:** 1996 AACS.

**R 324.903**

**Source:** 1996 AACS.

**R 324.904**

**Source:** 1996 AACS.

**PART 10. WELL SITES AND SURFACE FACILITIES; PREVENTION OF FIRES, POLLUTION,  
AND DANGER TO, OR DESTRUCTION OF, PROPERTY OR LIFE**

**R 324.1001**

**Source:** 1996 AACS.

**R 324.1002**

**Source:** 1996 AACS.

**R 324.1003**

**Source:** 1996 AACS.

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**R 324.1004**

**Source:** 1996 AACS.

**R 324.1005**

**Source:** 1996 AACS.

**R 324.1006**

**Source:** 1996 AACS.

**R 324.1007**

**Source:** 1996 AACS.

**R 324.1008     Reporting of losses, spills, and releases.**

Rule 1008. (1) A permittee of a well shall, under this rule and instructions issued by the supervisor and in compliance with all applicable state and federal laws and regulations, promptly report and record all reportable losses, spills, and releases of any of the following:

- (a) Brine.
- (b) Crude oil.
- (c) Oil or gas field waste.
- (d) Natural gas.
- (e) Products and chemicals used in association with oil and gas exploration, production, disposal, or development.

(2) A permittee of a well shall promptly report, within 8 hours of a loss, release, or spill discovery, by telephone or in person, to the supervisor or authorized representative of the supervisor during normal business hours or to the department of environmental quality, pollution emergency alerting system between 5 p.m. and 8 a.m. and on weekends and holidays, all losses or releases of gas that result in, or may result in, a nuisance odor or unnecessary endangerment of public health or safety, and all losses or spills of 42 gallons or more of brine, crude oil, or oil and gas field waste. A permittee shall provide all of the following minimum information, to the extent known, when reporting the loss, spill, or release:

- (a) The name of person reporting the loss, spill, or release.
  - (b) The name of permittee who has sustained the loss, spill, or release.
  - (c) The date and time of the loss, spill, or release.
  - (d) The date and time that the loss, spill, or release was discovered.
  - (e) The date and time cleanup commenced.
  - (f) The location of the loss, spill, or release, including all of the following information:
    - (i) Well name.
    - (ii) Quarter-quarter-quarter section.
    - (iii) Section number.
    - (iv) Township.
    - (v) County.
  - (g) The material lost, spilled, or released.
  - (h) The volume of the loss, spill, or release.
  - (i) The volume of the loss, spill, or release recovered.
  - (j) The cleanup or recovery measures taken.
  - (k) The cause of the loss, spill, or release.
  - (l) Whether the loss, spill, or release contacted surface waters, groundwater, or other environmentally sensitive resources.
  - (m) The approximate air temperature, wind direction, wind velocity, and precipitation conditions at the time of the spill or release.
- (3) A permittee of a well shall submit written notification of the losses, spills, and releases to the supervisor or authorized representative of the supervisor by completing all parts of the form provided by the supervisor within 10 days from the time the loss, spill, or release was discovered.
- (4) A permittee of a well shall report all losses or spills of less than 42 gallons of brine, crude oil, or oil and gas field waste by completing only parts 1 and 3 of the form provided by the supervisor if both of the

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following provisions apply:

- (a) The loss or spill does not contact surface waters, groundwater, or other environmentally sensitive resources.
- (b) The loss or spill is completely contained and cleaned up within 48 hours from the time the loss or spill was discovered.
- (5) If a loss or spill of less than 42 gallons of brine, crude oil, or oil and gas field waste does contact surface waters, groundwater, or other environmentally sensitive resources, or is not completely contained and cleaned up within 48 hours from the time the loss or spill was discovered, then a permittee of a well shall report the loss or spill as provided by subrule (2) of this rule and submit the written notification as provided by subrule (3) of this rule.
- (6) If the loss or spill is less than 42 gallons of brine, crude oil, or oil and gas field waste, then the loss is not a reportable loss or spill if the loss or spill occurs while a permittee or an authorized representative of the permittee is on-site and the loss or spill is completely contained and cleaned up within 1 hour of the occurrence.
- (7) A permittee of a well shall promptly report, within 8 hours of discovery of the loss or spill, by telephone or in person, a loss or spill of other chemicals used in association with oil and gas exploration, production, disposal, or development, shall provide the information required in subrule (2)(a) through (l) of this rule, and shall complete the form required in subrule (3) of this rule. A permittee shall report the losses or spills under other applicable state and federal laws and regulations.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1009**

**Source:** 1996 AACs.

**R 324.1010**

**Source:** 1996 AACs.

**R 324.1011**

**Source:** 1996 AACs.

**R 324.1012 Identification of wells and surface facilities.**

Rule 1012. (1) A permittee of a well shall ensure that a well is identified by a sign which is posted in a conspicuous place and which is not more than 20 feet from the well. A sign shall be durably constructed, be kept in good condition, and the lettering shall be not less than 1 1/2 inches high and legible under normal conditions at a distance of 25 feet. A sign shall show all of the following information:

- (a) The permit number.
  - (b) The name of the permittee.
  - (c) The name of the lease and well number.
  - (d) The well location by quarter-quarter section, township, and range.
  - (e) A telephone number by which an authorized representative of the permittee may be contacted at any time to respond to an emergency at the well.
- (2) A surface facility shall be identified by a sign which is posted in a conspicuous place and which is not more than 25 feet from the outside limits of the surface facility or at a location prescribed by the supervisor or authorized representative of the supervisor. A sign shall show all of the following information:
- (a) The name of the permittee or owner.
  - (b) A telephone number by which an authorized representative of the permittee may be contacted at any time to respond to an emergency at the facility.
  - (c) The location by quarter-quarter section, township, and range.

If more than 1 facility is located at a common site, 1 identification sign is sufficient. A sign shall be kept in good condition and the lettering shall be not less than 1 1/2 inches high and legible under normal conditions at a distance of 25 feet.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1013**

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**Source:** 1996 AACS.

**R 324.1014**

**Source:** 1996 AACS.

**R 324.1015**

**Source:** 1996 AACS.

**R 324.1016**

**Source:** 1996 AACS.

**PART 11. HYDROGEN SULFIDE MANAGEMENT**

**R 324.1101**

**Source:** 1996 AACS.

**R 324.1102**

**Source:** 1996 AACS.

**R 324.1103 Metallic component standards.**

Rule 1103. A permittee of a well shall ensure that metallic components of the well, flow line, and associated surface facilities installed during the course of drilling, completing, testing, producing, repair, workover, or servicing operations after September 2, 1987, where applicable, are in compliance with or exceed the standards for use in a hydrogen sulfide environment set forth in the NACE standard MR0175-2000, 2000 edition, entitled "Sulfide Stress Cracking Resistant Metallic Material for Oil Field Equipment," which is adopted by reference in these rules. Copies may be inspected at the Lansing office or field offices of the geological survey division of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Geological Survey Division, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$50.00 each, and from the National Association of Corrosion Engineers, P.O. Box 218340, Houston, Texas 77218, at a cost as of the time of adoption of these rules of \$50.00 each.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1104**

**Source:** 1996 AACS.

**R 324.1105 Classification of H<sub>2</sub>S wells; applicability of rules to well classes.**

Rule 1105. (1) An H<sub>2</sub>S well is considered a class I H<sub>2</sub>S well and is subject to the requirements of R 324.1103, R 324.1104, R 324.1106 to R 324.1115(1) to (5) and (7), and R 324.1116 to R 324.1130, unless a permittee can supply data showing that the well is a class II H<sub>2</sub>S, class III H<sub>2</sub>S, or class IV H<sub>2</sub>S well.

(2) An H<sub>2</sub>S well that is considered to be a class II H<sub>2</sub>S well is subject to the requirements of R324.1103, R 324.1104, R 324.1106 to R 324.1115(1) to (5) and (7), R 324.1116 to R 324.1129, and R324.1130(1), (3) and (4).

(3) An H<sub>2</sub>S well that is considered to be a class III H<sub>2</sub>S well is subject to the requirements of R324.1103, R 324.1104, R 324.1106 to R 324.1109, R 324.1111, R 324.1112, R 324.1114, R 324.1115(1) to (5) and (7), R 324.1116 to R 324.1129, and R 324.1130(1) and (4).

(4) An H<sub>2</sub>S well that is considered to be a class IV H<sub>2</sub>S well is subject to the requirements of R324.1103, R 324.1104, R 324.1106 to R 324.1109, R 324.1111, R 324.1112(2), R 324.1114, R 324.1115(6) and (7), R 324.1118 to R 324.1124, R 324.1126 to R 324.1129, and R 324.1130(1) and (4).

(5) If a well is being drilled through, but not completed in, a reservoir known to contain hydrogen sulfide-bearing gas, then the well shall be in compliance with the requirements of the H<sub>2</sub>S well class to which it would be assigned if it were completed in the reservoir. Compliance shall continue until all hydrogen sulfide-bearing zones have been cased off.

(6) The supervisor may require a permittee to provide the information necessary to determine whether these rules apply to a well.

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History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1106**

**Source:** 1996 AACs.

**R 324.1107**

**Source:** 1996 AACs.

**R 324.1108**

**Source:** 1996 AACs.

**R 324.1109**

**Source:** 1996 AACs.

**R 324.1110 Contingency plans for drilling and production.**

Rule 1110. (1) A contingency plan for drilling shall be prepared by the applicant to provide an organized plan of action for alerting and protecting personnel at an H<sub>2</sub>S well site and the public. The contingency plan for drilling shall consist of 2 parts.

(2) Part 1 of the plan shall contain the general procedures that shall be followed in the event of an emergency involving the possible release of hydrogen sulfide into the atmosphere and shall include both of the following sections:

(a) A section that lists, by title, personnel to be contacted and their duties and responsibilities. The list shall also include a delegation of duties and responsibilities and shall specify who is responsible for ordering ignition of the H<sub>2</sub>S well if necessary. The list shall be kept current by the applicant or permittee.

(b) A section that contains all of the following information:

(i) The emergency circumstances that cause the plan to be put into operation.

(ii) The initial procedures to be followed if the plan is activated.

(iii) The actions to be taken to ensure that all personnel known to be on the location are accounted for and that nonessential personnel shall be safely removed.

(iv) The actions to be taken to restrict access of nonessential personnel to the location.

(v) The procedure for notifying the general public, public authorities, as listed in the contingency plan, and safety agencies in the event of an emergency.

(vi) If evacuation of the public is necessary, the procedure for conducting the evacuation.

(vii) The procedures for igniting the H<sub>2</sub>S well.

(3) Part 2 of the plan shall be site-specific and shall contain all of the following information:

(a) An accurate map that shows the locations of all existing structures used for public or private occupancy, areas maintained for public recreation, roads, and railroads within a 1,300-foot radius of the drilling well in the case of a class I H<sub>2</sub>S well or within a 500-foot radius of the drilling well in the case of a class II H<sub>2</sub>S well.

(b) A list of names, telephone numbers, and addresses of all of the following:

(i) Seasonal and permanent residents.

(ii) Private businesses.

(iii) Schools.

(iv) Places of worship.

(v) Hospitals.

(vi) Governmental offices.

(vii) Parties responsible for the areas maintained for public camping or gathering identified on the map.

(c) A list of emergency telephone numbers, including the numbers of all of the following:

(i) Representatives of the permittee.

(ii) Representatives of the drilling contractor.

(iii) The emergency preparedness coordinator.

(iv) Local ambulance services.

(v) Local hospitals.

(vi) Local fire departments.

(vii) The department of environmental quality.

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(viii) The pollution emergency alerting system.

(4) An applicant shall submit part 1 of the contingency plan for drilling an H<sub>2</sub>S well at the request of the supervisor or authorized representative of the supervisor. The applicant shall submit part 2 of the contingency plan for drilling an H<sub>2</sub>S well with the application for a drilling permit. The applicant shall submit a copy of part 2 of the contingency plan to the local emergency preparedness coordinator at the time the application is submitted to the supervisor. The supervisor or authorized representative of the supervisor may require that contingency plans for producing H<sub>2</sub>S wells be updated periodically.

(5) An applicant may request, from the supervisor or authorized representative of the supervisor, an exception to the requirement to prepare the map and accompanying list of residences required in subrule (3) of this rule.

(6) A permittee shall prepare a contingency plan for production for any well, surface facility, or flow line subject to this rule. A contingency plan shall contain all of the following information:

(a) Permittee name, well name, location, and permit number of the well or facility.

(b) An accurate map or site plan showing the location of all equipment carrying or containing fluids with hydrogen sulfide.

(c) Names and contact information for local representatives of the permittee who have knowledge of the equipment and authority to take corrective actions at the well or facility in an emergency situation.

(d) Available information on hydrogen sulfide concentrations at the site.

(7) Every 3 years or as required by the supervisor, a permittee shall review contingency plans and certify to the supervisor or authorized representative of the supervisor and the local emergency preparedness coordinator that the contingency plans are accurate. The permittee shall update the contingency plan under any of the following conditions and submit a copy of the updated contingency plan to the supervisor or authorized representative of the supervisor and the local emergency preparedness coordinator:

(a) A change of the notification process or local representatives of the permittee.

(b) A substantial change in the site conditions or equipment noted on the plan.

(c) A change of the permittee.

(8) A permittee shall provide a contingency plan for production to the supervisor or authorized representative of the supervisor and the local emergency preparedness coordinator for all wells, surface facilities, and flow lines subject to this rule 6 months after the effective date of these amendatory rules for all existing production facilities and before the commencement of production for all production facilities completed after the effective date of these amendatory rules.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1111**

**Source:** 1996 AACS.

**R 324.1112**

**Source:** 1996 AACS.

**R 324.1113     Emergency preparedness coordinator; contact by permittee.**

Rule 1113. A permittee of a well shall contact the appropriate emergency preparedness coordinator not less than 24 hours before the commencement of drilling the H<sub>2</sub>S well.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1114**

**Source:** 1996 AACS.

**R 324.1115**

**Source:** 1996 AACS.

**R 324.1116**

**Source:** 1996 AACS.

**R 324.1117**



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**Source:** 1996 AACs.

**R 324.1118**

**Source:** 1996 AACs.

**R 324.1119**

**Source:** 1996 AACs.

**R 324.1120**

**Source:** 1996 AACs.

**R 324.1121**

**Source:** 1996 AACs.

**R 324.1122 Vessels used for storing hydrogen sulfide-bearing liquid hydrocarbons or hydrogen sulfide-bearing brine; equipment requirements.**

Rule 1122. (1) A permittee of a well shall ensure that a vessel which is located at an H<sub>2</sub>S well site or in a central production facility serving an H<sub>2</sub>S well and that is used for the storage of hydrogen sulfide-bearing liquid hydrocarbons or hydrogen sulfide-bearing brine is equipped with a sealing, pressure-vacuum-type hatch, except that a pressure-vacuum-type hatch is not required on a storage vessel if the venting of vapor to the atmosphere is permitted under subrule (4) of this rule. A hatch shall be kept closed when a tank is not being gauged.

(2) If a storage vessel described in subrule (1) of this rule releases a total 24-hour volume of 5 mcf or more of vapors, then a permittee of a well shall ensure that the vessel is equipped with a vent line for conveying released gasses and vapors to an incinerator, flare, or vapor recovery system. A flashback prevention system shall be installed on the line between a vessel and the incinerator or flare. If a vapor recovery system is used to control tank vapor emissions, then a flare or incinerator shall be available for standby or emergency use. Installing a vapor recovery system does not exempt a flare or incinerator from being in compliance with the requirements of R 324.1123.

(3) If a storage vessel described in subrule (1) of this rule releases a total daily volume of 5 mcf or more of vapors, then a permittee of a well shall install a fence around the vessel equipped with a gate. A fence shall be located not less than 20 feet from the base of a storage vessel. A permittee shall ensure that warning signs with the word "Danger" or "Caution" followed by the words "Poison Gas" are installed on all sides of the fence. If the supervisor or authorized representative of the supervisor finds that a threat to the public safety exists due to emissions of sulfur-bearing gas or vapor, then fencing other than that specified in R 324.102(o) may be required.

(4) If a storage vessel described in subrule (1) of this rule releases a total daily volume of 5 mcf or less of vapor, then it may be vented to the atmosphere if the vent is located not less than 10 feet above the tank top and if the opening of the vent is within the diked area or not less than 20 feet above the ground if the opening of the vent is outside the diked area. The supervisor may prohibit venting of vapor to the atmosphere if a verified chronic nuisance odor results from the sulfur-bearing compounds being vented.

(5) If the hydrogen sulfide concentration at the tank thief hatch is more than 500 ppm by volume, then a permittee of a well shall ensure that a tank has a latched gate at the foot of the catwalk stairs. A permittee of a well shall ensure that a sign reading "Self-contained Breathing Apparatus is Recommended Beyond This Point if Hatches are to be Opened" is posted on the gate.

(6) The supervisor may require the use of a tank gauging system that does not require the opening of the tank hatches if a verified chronic nuisance odor results from tank gauging.

(7) A person or a permittee of a well shall not install a tank which is used for the storage of hydrogen sulfide-bearing liquid hydrocarbons or brine from an H<sub>2</sub>S well if the separator or treater immediately upstream of the tank has an operating pressure in excess of 250 psig unless an independent registered engineer certifies that the facility is designed and constructed such that any release of liquids or gas to the tank shall not cause a release of hydrogen sulfide to the atmosphere.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

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**R 324.1123**

**Source:** 1996 AACs.

**R 324.1124**

**Source:** 1996 AACs.

**R 324.1125 Shut-in systems.**

Rule 1125. (1) A permittee of a well shall ensure that an H<sub>2</sub>S well which produces unattended and which has a stabilized producing tubing pressure of not less than 100 psig is equipped with a high-pressure and low-pressure shut-in system.

(2) A permittee of a well shall ensure that a class I H<sub>2</sub>S well drilled after the effective date of these amendatory rules for which the 100 ppm radius of exposure includes an existing structure used for public or private occupancy, existing area maintained for public recreation, or the edge of the traveled portion of an existing interstate, united states, or state highway, shall be equipped with the following:

(a) Hydrogen sulfide sensors located on four sides of the wellhead at a distance of not more than 20 feet. The sensors shall be set to activate safety shutdown equipment as specified in subdivisions (b) and (c) of this subrule when a hydrogen sulfide concentration of 30 ppm is detected. A permittee of a well shall calibrate the sensor system according to the manufacturer's instructions.

(b) For flowing class I H<sub>2</sub>S wells:

(i) Dual manual master valves.

(ii) A fail-closed wing safety valve automatically actuated by a low pressure pilot sensor downstream of the valve and by the hydrogen sulfide sensors at the wellhead.

(iii) Remote telemetry that alerts the well operator when the hydrogen sulfide sensors detect a hydrogen sulfide concentration of 30 ppm.

(iv) An emergency access valve into the tubing spool.

(c) For pumped class I H<sub>2</sub>S wells:

(i) An emergency access valve into the tubing spool.

(ii) A fail-closed blowout preventer automatically actuated in the event the polish rod breaks.

(iii) A fail-closed polish rod ram blowout preventer automatically actuated by the hydrogen sulfide sensors at the wellhead.

(iv) Equipment that automatically shuts off the pump drive unit in the event of a stuffing box failure.

(v) A safety shut down of the pump drive unit, which cannot be isolated from the tubing pressure without unlocking a valve, automatically actuated by the high pressure low pressure sensor and the hydrogen sulfide sensors at the wellhead.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1126**

**Source:** 1996 AACs.

**R 324.1127**

**Source:** 1996 AACs.

**R 324.1128**

**Source:** 1996 AACs.

**R 324.1129 Burning, processing, or disposing of hydrogen sulfide gas.**

Rule 1129. (1) A permittee shall not release gas produced from an H<sub>2</sub>S well to the environment, except as follows:

(a) By burning as fuel in a heated vessel in compliance with R 324.1121.

(b) By burning in a flare or incinerator that complies with R 324.1010.

(c) By injection into an approved underground formation under R 324.612 or R 324.703.

(d) By venting from tanks under R 324.1122(4) or R 324.1124.

(e) By disposal by other means as may be approved by the supervisor under a specific request by the permittee, if the permittee demonstrates to the supervisor that the manner of disposal prevents waste and

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does not cause unnecessary endangerment of public health, safety, and welfare.

(2) If a well or its associated surface facilities produce hydrogen sulfide and the supervisor or authorized representative of the supervisor receives 1 or more complaints of odor regarding the facility, then the supervisor may require the permittee of a well to perform numerical modeling to determine the concentration of hydrogen sulfide in the ambient air. Numerical modeling shall utilize the distance from the potential point of an uncontrolled release of gas at the well or its associated surface facilities to the closest existing structure used for public or private occupancy, existing area maintained for public recreation, or the edge of the traveled portion of an existing interstate, United States, or state highway. A permittee shall have the opportunity to provide, in addition to the numerical modeling, actual measurements of the concentration of hydrogen sulfide in the ambient air taken at the closest existing structure used for public or private occupancy, existing area maintained for public recreation, or the edge of the traveled portion of an existing interstate, United States, or state highway. The supervisor or authorized representative of the supervisor may determine a nuisance odor exists based on all applicable information. The supervisor or authorized representative of the supervisor may require appropriate emission control measures consistent with the provisions of this rule and R 324.1101 to R 324.1128. If emission control measures are required, then the permittee shall submit, within 30 days of being determined to be necessary by the supervisor, for the approval of the supervisor or authorized representative of the supervisor, a timetable for the installation of any equipment required.

History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**R 324.1130 Requirements for certain gathering lines, flow lines, and facility piping.**

Rule 1130. (1) A gathering line, installed after the effective date of these amendatory rules carrying gas with more than 300 ppm hydrogen sulfide shall be subject to the provisions for design, construction, testing, maintenance, and operation as specified in administrative rules promulgated under Act No. 165 of the Public Acts of 1969, as amended, being §483.151 et seq. of the Michigan Compiled Laws.

(2) A flow line or facility piping, carrying gas from a class I H<sub>2</sub>S well and which is subject to a maximum working pressure in excess of 125 psig shall be subject to the provisions for design, construction, testing, maintenance, and operation as specified in administrative rules promulgated under Act No. 165 of the Public Acts of 1969, as amended, being §483.151 et seq. of the Michigan Compiled Laws.

(3) A person or a permittee shall not install a flow line or gathering line, carrying gas from a class I H<sub>2</sub>S or class II H<sub>2</sub>S well, or modify an existing flow line or gathering line to serve additional class I H<sub>2</sub>S or class II H<sub>2</sub>S wells, unless all of the following provisions are met:

(a) The person or permittee shall calculate the 100 ppm radius of exposure, using either the equation set forth in R 324.1102(c) or another dispersion model accepted by the supervisor. The calculation shall be based upon the reasonably expected concentration of hydrogen sulfide to be transported in the flow line or gathering line, the maximum actual operating pressure, and the volume of gas that could be released from the flow line or gathering line, accounting for any automatic shut-in systems and blocking valves that will be utilized.

(b) If an existing structure used for public or private occupancy, an existing area maintained for public recreation or the edge of the traveled portion of an existing interstate, united states, or state highway falls within the 100 ppm radius of exposure, the person or permittee shall prepare a construction and operation plan that incorporates reasonable measures to reduce the potential for public exposure to hydrogen sulfide from a release that might occur. The construction and operation plan shall consider appropriate construction standards, routing alternatives, monitoring equipment, automatic controls for source shut-in, or other available engineering methods. The person or permittee shall submit the construction and operation plan to, and receive the approval of the supervisor or authorized representative of the supervisor. The supervisor or authorized representative of the supervisor shall have 30 days to approve the plan or to require modifications or additional information.

(c) Repair and maintenance of an existing flow line or gathering line are exempt from the provisions of this subrule.

(4) Gathering lines, flow lines, or facility piping are not subject to this rule if they are subject to the issuance of a certificate of public convenience and necessity by the Michigan public service commission under the provisions of Act 9 of the Public Acts of 1929, as amended, being §483.101 et seq. of the Michigan Compiled

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Laws or are subject to regulation by the Michigan public service commission under the provisions of Act No. 165 of the Public Acts of 1969, as amended, being §483.151 et seq. of the Michigan Compiled Laws.  
History: 1996 MR 9, Eff. Sep. 19, 1996; 2001 MR 2, Eff. Feb. 6, 2001.

**PART 12. HEARINGS**

**R 324.1201**

**Source:** 1996 AACS.

**R 324.1202**

**Source:** 1996 AACS.

**R 324.1203**

**Source:** 1996 AACS.

**R 324.1204**

**Source:** 1996 AACS.

**R 324.1205**

**Source:** 1996 AACS.

**R 324.1206**

**Source:** 1996 AACS.

**R 324.1207**

**Source:** 1996 AACS.

**R 324.1208**

**Source:** 1996 AACS.

**R 324.1209**

**Source:** 1996 AACS.

**R 324.1210**

**Source:** 1996 AACS.

**R 324.1211**

**Source:** 1996 AACS.

**R 324.1212**

**Source:** 1996 AACS.

**PART 13. ENFORCEMENT**

**R 324.1301**

**Source:** 1996 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**ENVIRONMENTAL ASSISTANCE DIVISION**

**CLEAN CORPORATE CITIZEN PROGRAM**

**R 324.1501**

**Source:** 1998-2000 AACS.

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**R 324.1502**

**Source:** 1998-2000 AACS.

**R 324.1503**

**Source:** 1998-2000 AACS.

**R 324.1504**

**Source:** 1998-2000 AACS.

**R 324.1505**

**Source:** 1998-2000 AACS.

**R 324.1506**

**Source:** 1998-2000 AACS.

**R 324.1507**

**Source:** 1998-2000 AACS.

**R 324.1508**

**Source:** 1998-2000 AACS.

**R 324.1509.**

**Source:** 1998-2000 AACS.

**R 324.1510**

**Source:** 1998-2000 AACS.

**R 324.1511**

**Source:** 1998-2000 AACS.

**WASTE MANAGEMENT DIVISION**

**PART 5. SPILLAGE OF OIL AND POLLUTION MATERIALS**

**R 324.2001 Definitions; a to o.**

Rule 1. As used in this part:

- (a) "Act" means 1994 PA 451, MCL 324.101 et seq., and known as the natural resources and environmental protection act.
- (b) "Department" means the department of environmental quality.
- (c) "Indoors" means within a building or other enclosure which provides protection from the elements, which has doors or other means of entry that can be closed or otherwise protected from unauthorized entry, and which has a floor capable of containing liquid or solid materials.
- (d) "Manufactured item" means any solid article, other than a container holding solid or liquid polluting materials, which is formed to specific shape during manufacture, and which does not leach or otherwise release polluting materials to the groundwaters or surface waters of the state under normal conditions of use or storage.
- (e) "Oil" means oil of any kind or in any form, including any of the following:
  - Petroleum.
  - (ii) Gasoline.
  - (iii) Fuel oil.
  - (iv) Grease.
  - (v) Oily sludges.
  - Oil refuse.
  - (vii) Oil mixed with waste.
- (f) "Oil storage facility" means a temporary or permanent land-based industry, plant, establishment, firm, or

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other facility which receives, processes, manufactures, uses, stores, or ships oil, and at which there is present an amount of oil equal to or more than the threshold management quantity and which is so situated that oil could directly or indirectly reach the surface or groundwaters of this state, including any facility that discharges through a public sewer system. "Oil-storage facility" does not include an oil field petroleum or brine storage facility, a recreational marina, installations of oil-containing electrical equipment, or any transportation-related facility, as defined in 40 C.F.R. part 112.

(g) "On-land facility" means a temporary or permanent land-based industry, plant, establishment, firm, storage site, or other facility, which receives, processes, manufactures, uses, stores or ships polluting materials and at which there is present an amount of any polluting material equal to or more than its threshold management quantity and which is so situated that loss of polluting materials could directly or indirectly reach the surface or groundwaters of this state, including any facility which discharges through a public sewer system. "On-land facility" does not include an oil storage facility, an oil field petroleum or brine storage facility, a recreational marina, installations of oil containing electrical equipment, or a transportation-related facility as defined in 40 C.F.R. part 112.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2002 Definitions; p to u.**

Rule 2. As used in this part:

(a) "Polluting material" means all of the following:

(i) Oil.

(ii) Salt.

(iii) Any material specified in table 1 in R 324.2009.

(iv) Any compound or product that contains 1%, or more, by weight, of any material listed in paragraphs (i) through (iii) of this subdivision based on material safety data sheet formulation information for the compounds or products.

(v) "Polluting material" does not include manufactured items.

(b) "Release" is defined in section 20101(1)(bb) of the act. For the purposes of this rule, "release" does not include any of the following:

(i) Spilling, leaking, or discharging less than 1000 gallons of a polluting material into a secondary containment structure that complies with these rules, if recovery of the material spilled, leaked, or discharged is initiated within 24 hours of detection, is completed as soon as practicable, but not more than 72 hours after detection, and if no polluting materials are released directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(ii) Spilling, leaking, or discharging less than 55 gallons of oil to the ground surface, if the spill, leak, or discharge is detected and the oil recovered within 24 hours of the spill, leak, or discharge, and if oil is not released directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(iii) Spilling, leaking, or discharging less than 55 gallons of oil to the surface waters of this state, if effective recovery measures are implemented in response to the spill, leak, or discharge immediately upon detection.

(iv) Releases of air contaminants as defined in section 5501(a) of the act.

(v) Permitted releases as defined in section 20101(1)(aa) of the act.

(c) "Salt" means sodium chloride, potassium chloride, calcium chloride, and magnesium chloride, and solutions or mixtures of these compounds in solid or liquid form.

(d) "Secondary containment structure" means a unit, other than the primary container in which polluting material is packaged or held, that is designed, constructed, and operated so that the polluting material cannot escape from the unit through public sewers, drains, or otherwise directly or indirectly into any public sewer system or to the surface waters or groundwaters of this state.

(e) "Sewer system" is defined in R 299.2903(8).

(f) "Threshold management quantity" means any of the following:

(i) For salt in solid form used, stored, or otherwise managed at any location at or within an on-land or oil storage facility, 5 tons.

(ii) For salt in liquid form used, stored, or otherwise managed at any location at or within an on-land or oil storage facility, 1000 gallons.

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- (iii) For oil, 1320 gallons in aboveground tanks or containers if no single tank or container has a capacity of more than of 660 gallons.
  - (iv) For all other polluting materials at any discrete outdoor use or storage location at an on-land or oil storage facility, 200 kilograms (440 pounds).
  - (v) For all other polluting materials at any discrete indoor use or storage location at an on-land or oil storage facility, 1000 kilograms (2200 pounds).
  - (g) "Threshold reporting quantity" means any of the following:
    - (i) For releases of oil to the surface of the ground, 50 pounds.
    - (ii) For releases of oil to the waters of the state, any quantity that causes unnatural turbidity, color, visible sheens, oil films, foams, solids, or deposits in the receiving waterbody.
    - (iii) For release of salt to the surface of the ground, or waters of the state, 50 pounds in solid form, unless the use is authorized by the department for deicing purposes, or 50 gallons in liquid form, unless authorized by the department as a dust suppressant or deicing agent or permitted under part 31 of the act.
    - (iv) For releases of all other polluting materials, the quantity specified in table 1 in R324.2009, or any quantity that causes unnatural turbidity, color, visible sheens, oil films, foams, solids, or deposits in the receiving waterbody.
  - (h) "Use area" means any area within an oil storage facility or on-land facility that is used for handling, treating, or processing polluting materials.
- History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2003 Conditional exemptions.**

Rule 3. (1) Except as otherwise provided in these rules, the following facilities are exempt from these rules subject to the following conditions:

- (a) Any facility that manages polluting materials in excess of threshold quantities is exempt from these rules if the polluting materials are managed in containers that do not individually exceed 10 gallons or 100 pounds in capacity and that are located indoors at a facility that is designed, constructed, maintained, and operated to prevent any spilled polluting material from being released directly or indirectly to the surface or groundwaters of the state.
- (b) An on-land or oil storage facility which does not manage any other polluting materials in excess of an applicable threshold management quantity and which is otherwise subject to the federal oil pollution prevention requirements of 40 C.F.R. part 110 or 112, (1997), shall comply with these rules by fully complying with the federal requirements and shall also report all releases of oil as required in R324.2007. The owner or operator of such a facility shall submit a copy of the facility's spill prevention, control, and countermeasure plan in accordance with R324.2006(2). An oil storage facility that manages both oil and other polluting materials in excess of an applicable threshold management quantity shall comply with these rules for the other polluting materials. Failure to fully comply with the federal oil pollution prevention requirements is a violation of these rules and the federal requirements and is subject to the provisions of part 31 of the act.
- (c) An on-land or oil storage facility subject to 1941 PA 207, MCL 29.1, et seq., and known as the fire prevention code, shall comply with these rules by fully complying with the provisions of 1941 PA 207, for any flammable liquids, or combustible liquids, or both, subject to 1941 PA 207. An on-land facility that manages flammable liquids, or combustible liquids, or both, and other polluting materials in excess of an applicable threshold management quantity shall comply with these rules for the other polluting materials.
- (d) An on-land or oil storage facility that owns or manages underground storage tanks subject to part 211 or 213 of the act shall comply with these rules by fully complying with the requirements of part 211 or 213 of the act for the underground storage tanks. An on-land or oil storage facility that has underground storage tanks subject to part 211 or 213 of the act that also manages other polluting materials in excess of an applicable threshold management quantity that are not subject to part 211 or 213 of the act shall comply with these rules for the other polluting materials.
- (e) An on-land or oil storage facility that manages hazardous wastes subject to part 111 of the act shall comply with these rules by fully complying with the requirements of part 111 of the act for those hazardous wastes. An on-land or oil storage facility that manages hazardous wastes subject to part 111 of the act that also manages other polluting materials in excess of an applicable threshold management quantity that are

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not subject to part 111 of the act shall comply with these rules for the other polluting materials.

(f) An on-land or oil storage facility that is subject to part 615 of the act shall comply with these rules by fully complying with the requirements of part 615 of the act. An on-land or oil storage facility subject to part 615 of the act that also manages other polluting materials in excess of an applicable threshold management quantity that are not subject to part 615 of the act shall comply with these rules for the other polluting materials.

(2) Notwithstanding any other provision of these rules, if the department determines, on the basis of the physical state, chemical properties, location, manner of management, or proximity to vulnerable natural resources, that a facility that receives, uses, processes, manufactures, stores, or ships polluting materials in amounts less than an applicable threshold management quantity, can, if there is a release, be reasonably expected to cause substantial harm to the surface or groundwaters of the state, then the facility may be required to comply with these rules by a permit or an order issued under part 31 of the act and the rules promulgated under part 31 of the act.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2004 Oil storage and on-land facilities: surveillance.**

Rule 4. Oil storage and on-land facilities shall maintain adequate surveillance of all manufacturing processes, treatment systems, storage areas, and other such areas so that any polluting material loss therefrom can be detected in a timely manner and procedures implemented to prevent any polluting materials from reaching the waters of this state.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2005 Secondary containment.**

Rule 5. (1) Except as may be authorized under subrule (5) of this rule, not later than 24 months after the effective date of these rules, any on-land facility that has any outdoor storage areas used to store liquid polluting materials in excess of a threshold management quantity shall provide secondary containment structures for those outdoor storage areas as required in subrule (2) of this rule.

(2) Secondary containment structures for liquids shall comply with all of the following provisions:

(a) Be constructed of materials that are compatible with, and impervious to, or otherwise capable of containing, any spilled, leaked, or discharged polluting materials so that the materials can be recovered and so that polluting materials cannot escape directly or indirectly to any public sewer system or to the surface waters or groundwaters of this state.

(b) Provide a capacity that is not less than 10% of the total volume of the tanks or containers within the secondary containment structure or provide a capacity of 100% of the largest single tank or container within the secondary containment structure, whichever is larger.

(c) Allow surveillance of the tanks or containers, the timely detection of any leaks and recovery of any spillage, and the removal and proper disposal of any captured precipitation so that the minimum required capacity is maintained at all times. Captured precipitation may be removed by drainage through normally closed valves if all of the following conditions are met:

(i) The drainage is conducted under the direct supervision of qualified facility personnel.

(ii) The valves are secured closed at all times, except during precipitation removal.

(iii) The drainage is performed in full compliance with all applicable local, state, and federal requirements.

(3) All use areas and indoor storage areas shall be designed, constructed, maintained, and operated to prevent the release of polluting materials through sewers, drains, or otherwise directly or indirectly into any public sewer system or to the surface or groundwaters of this state.

(4) Polluting materials in solid form shall be enclosed, covered, contained, or otherwise protected to prevent run-on and any runoff, seepage, or leakage to any public sewer system or to the surface or groundwaters of the state. Solid polluting materials shall not be stored within 50 feet of a designated wetland or the shore or bank of any lake or stream. Solid polluting material containment structures located within a 100-year floodplain as defined by the federal flood disaster protection act of 1973, 42 U.S.C. 4001 et seq., shall be designed and constructed to remain effective during a 100-year flood.

(5) Alternate secondary containment, control, or treatment systems other than those required in subrule (1) of this rule that provide adequate protection may be used upon written approval of the department.



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Requests for alternate secondary containment, control, or treatment systems shall be submitted in writing to the chief of the department's waste management division. The chief of the department's waste management division, or his or her authorized delegee, shall either approve, approve with specific modifications, or disapprove a request for an alternate secondary containment, control, or treatment system not more than 180 days after receipt.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2006    Pollution incident prevention plan.**

Rule 6. (1) Except as provided in subrule (3) of this rule, not more than 24 months after the effective date of these rules, the owner or operator of any on-land facility that receives, uses, processes, manufactures, stores, or ships polluting materials in excess of the applicable threshold management quantity shall develop, maintain, and operate in accordance with, a pollution incident prevention plan. At a minimum, the pollution incident prevention plan shall include all of the following information:

(a) All of the following general facility information:

- (i) Facility name.
- (ii) Mailing address.
- (iii) Street address, if other than the mailing address.
- (iv) Facility phone number.
- (v) 24-hour emergency phone number or numbers.
- (vi) Internal emergency notification procedures.
- (vii) The name of the designated spill prevention and control coordinator.
- (viii) The name of the person or persons responsible for on-site spill prevention and control, if different than the designated spill prevention and control coordinator.
- (ix) The name of the facility owner.
- (x) A map showing the facility relative to the surrounding area, including thoroughfares.

(b) Procedures for emergency notification of all of the following entities:

- (i) The department's pollution emergency alerting system (PEAS).
- (ii) National response center.
- (iii) Local emergency planning committee.
- (iv) Local fire department.
- (v) Local law enforcement agency.
- (vi) Municipal wastewater treatment plant if the facility is served by a municipal wastewater treatment plant.
- (vii) Appropriate spill cleanup contractor, or consulting firm, or both.

(c) All of the following spill control and cleanup procedures:

- (i) Inventory and location of spill control and cleanup equipment available on-and off-site.
- (ii) Procedures for response and cleanup.
- (iii) Procedures for characterization and disposal of recovered materials.

(d) A polluting material inventory, including all of the following information:

- (i) Identification of all polluting materials typically on-site in quantities exceeding the threshold management quantity during the preceeding 12 months. The materials shall be identified by product name, chemical name, and chemical abstracts service number.
- (ii) The location of material safety data sheets for all polluting materials on-site in quantities exceeding the threshold management quantity.

(e) A site plan depicting relevant site structures and all storage and use areas where polluting materials are managed on-site in quantities exceeding the threshold management quantity, including any of the following:

- (i) Aboveground and underground tanks.
- (ii) Floor drains.
- (iii) Loading and unloading areas.
- (iv) Sumps.
- (v) On-site water supplies.

(f) Outdoor secondary containment structures, including all of the following information:

- (i) Location or locations.

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- (ii) Design and construction data, including dimensions, materials, capacity, and the amount of the polluting materials stored in each area.
  - (iii) Provisions for the capture and removal of spilled polluting materials.
  - (iv) Provisions for secondary containment structure physical security, including signage, gates, fences, and barriers.
  - (v) Precipitation management procedures, including characterization and disposal procedures and copies of any permits authorizing discharge.
  - (vi) Inspection and maintenance procedures.
  - (g) Other controls.
  - (h) Provisions for general facility physical security.
- (2) The facility owner or operator shall maintain the plan at the facility available for inspection upon request of the department. Within 30 days after its completion, the facility owner or operator shall notify the department and certify that the facility is in full compliance with these rules and notify the local emergency planning committee and the local health department serving the facility that the pollution incident prevention plan has been completed and is available upon request. Within 30 days after receiving a request for a copy of the plan from the department, the local emergency planning committee or the local health department, the facility owner or operator shall submit a copy of the pollution incident prevention plan to the requesting agency.
- (3) A facility that is subject to other local, state, or federal emergency or contingency planning requirements may integrate the pollution incident prevention plan with other plans if the required elements of the pollution incident prevention plan are contained in the integrated plan. Upon preparation of an integrated plan, the facility owner or operator shall submit the updated plan and shall renotify the department and recertify compliance with these rules in accordance with subrule (2) of this rule.
- (4) The facility owner or operator shall evaluate the pollution incident prevention plan or integrated plan every 3 years or after any release that requires implementation of the plan, whichever is more frequent. The facility owner or operator shall update the plan when facility personnel, processes, or procedures identified in the plan change or as otherwise necessary to maintain compliance with this rule. Upon preparation of an updated plan, the facility owner or operator shall renotify the department and recertify compliance with these rules in accordance with subrule (2) of this rule.
- (5) If the department determines that a pollution incident prevention plan prepared under subrule (1) of this rule or the applicable portions of an integrated plan prepared under subrule (3) of this rule is incomplete or inadequate, then the department may inform the owner or operator of an oil storage or on-land facility, in writing, of the department's findings and recommendations and request modification of the plan. The owner or operator of the oil storage or on-land facility shall modify the plan and resubmit it in accordance with subrule (2) of this rule within 30 days after receipt of the department's request, unless a longer response period is authorized by the department in writing.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2007    Pollution incident report.**

Rule 7. (1) As soon as practicable after detection of a release, the owner, operator, or manager of an oil storage facility or an on-land facility that releases or permits to be released any polluting material in excess of a threshold reporting quantity during any 24-hour period shall notify the department by contacting the department's PEAS at 1-800-292-4706.

(2) Within 10 days after the release, the owner or operator shall file a written report with the chief of the department's waste management division outlining the cause of the release, discovery of the release, and the response measures taken or a schedule for completion of measures to be taken, or both, to prevent recurrence of similar releases.

(3) This rule does not supersede, rescind, or otherwise alter any other existing procedure, rule, or statute pertaining to pollution of the waters of this state, nor does it relieve any person from any reporting requirement imposed under federal law or regulation.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2008    Enforcement.**

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Rule 8. A person who violates any provision of this part is subject to the procedures and penalties prescribed in sections 3112, 3114, 3115, and 3115a of part 31 of the act.

History: 2001 MR 16, Eff. Aug. 31, 2001.

**R 324.2009 Table 1; polluting materials.**

**Rule 9. Table 1 reads as follows:**

Name	CAS	TRQ (lbs.)
1,1,1,2 Tetrachloroethane	630206	10
1,1,1-Trichloroethane	71556	100
1,1,2,2-Tetrachloroethane	79345	10
1,1,2-Trichloroethane	79005	10
1,1-Dichloroethane	75343	100
1,1-Dichloroethylene	75354	10
1,1-Dichloropropane	78999	100
1,2-Dimethylhydrazine	540738	1
1,1-Dimethylhydrazine	57147	10
1,2,3,4-tetrachlorobenzene	634662	10
1,2,3,5-tetrachlorobenzene	634902	10
1,2,3-trichlorobenzene	87616	10
1,2,4,5-Tetrachlorobenzene	95943	500
1,2,4-Trichlorobenzene	120821	10
1,2:3,4-diepoxybutane	298180	10
1,2-Butylene oxide	106887	10
1,2-Dibromo-3-chloropropane	96128	1
1,2-Dibromoethane	106934	1
1,2-Dichloroethane	107062	10
1,2-Dichloroethylene	156605	100
1,2-Dichloropropane	78875	100
1,2-Diphenylhydrazine	122667	10
1,3,5-Trinitrobenzene	99354	10
1,3-Butadiene	106990	10
1,3-Dichlorobenzene	541731	10
1,3-Dichloropropane	142289	500
1,3-Dichloropropylene	542756	10
1,3-Pentadiene	504609	10
1,4-Dichloro-2-butene	764410	1
1,4-Dichlorobenzene	106467	10
1,4-Dioxane	123911	10
1,4-Naphthoquinone	130154	500
1,5-naphthalenediamine	2243621	10
1-Acetyl-2-thiourea	591082	100
1-amino-2-methylantraquinone	82280	10
1-chloropropene	590-21-6	10
1H-Azepine-1 carbothioic acid, hexahydro-S-ethyl ester	2212671	1
2,2,4-Trimethylpentane	540841	100

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2,2-Dichloropropionic acid	75990	500
2,2-Dimethyl-1,3-benzodioxol-4-ol methylcarbamate	22781233	1
2,3,4,5-tetrachlorophenol	4901513	10
2,3,4,6-Tetrachlorophenol	58902	10
2,3,4-Trichlorophenol	15950660	10
2,3,5,6-tetrachlorophenol	935955	10
2,3,5-Trichlorophenol	933788	10
2,3,6-Trichlorophenol	933755	10
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746016	1
2,3-Dichloropropene	78886	10
2,4,5-T acid	93765	100
2,4,5-T amines	1319728	500
2,4,5-T amines	6369966	500
2,4,5-T amines	2008460	500
2,4,5-T amines	6369977	500
2,4,5-T amines	3813147	500
2,4,5-T esters	25168154	100
2,4,5-T esters	61792072	100
2,4,5-T esters	2545597	100
2,4,5-T esters	93798	100
2,4,5-T esters	1928478	100
2,4,5-T salts	13560991	100
2,4,5-TP esters	32534955	10
2,4,5-Trichlorophenol	95954	10
2,4,5-trichlorotoluene	6639301	10
2,4,5-trimethylaniline	137177	10
2,4,6-Trichlorophenol	88062	10
2,4-D chlorocrotyl ester	2971382	10
2,4-D Esters	1320189	10
2,4-D Esters	94791	10
2,4-D Esters	53467111	10
2,4-D Esters	1928387	10
2,4-D Esters	1928616	10
2,4-D Esters	2971382	10
2,4-D Esters	1929733	10
2,4-D Esters	94111	10
2,4-D Esters	25168267	10
2,4-D Esters	94804	10
2,4-D, salts and esters	94757	10
2,4-diaminoanisole sulfate	39156417	10
2,4-Diaminotoluene	95807	10
2,4-Dichlorophenol	120832	10
2,4-Dimethylphenol	105679	10
2,4-Dinitrophenol	51285	10
2,4-Dinitrotoluene	121142	10
2,4-Dithiobiuret	541537	10
2,5-Dinitrophenol	329715	10

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2,6-Dichlorophenol	87650	10
2,6-Dinitrophenol	573568	10
2,6-Dinitrotoluene	606202	10
2-Acetylaminofluorene	53963	1
2-aminoanthraquinone	117793	10
2-Butenal	4170303	10
2-Butenal, (e)-	123739	10
2-Chloroacetophenone	532274	10
2-Chloroethyl vinyl ether	110758	100
2-Chloronaphthalene	91587	500
2-Chlorophenol	95578	10
2-Cyclohexyl-4,6-dinitrophenol	131895	10
2-Ethoxyethanol	110805	100
2-methyl-1-nitroanthraquinone	129157	10
2-Methylactonitrile	75865	10
2-Methylpyridine	109068	500
2-Nitrophenol	88755	10
2-Nitropropane	79469	10
3-(chloromethyl)pyridine hydrochloride	6959484	10
3,3'-Dichlorobenzidine	91941	1
3,3'-Dimethoxybenzidine	119904	10
3,3'-Dimethylbenzidine	119937	10
3,4,5-Trichlorophenol	609198	10
3,4-Dinitrotoluene	610399	10
3,6-Dichloro-2-methoxybenzoic acid	1918009	100
3-amino-9-ethylcarbazole	132321	10
3-amino-9-ethylcarbazole hydrochloride	57360175	10
3-Chloropropionitrile	542767	100
3-Iodo-2-propynyl butylcarbamate	55406536	1
3-Methylcholanthrene	56495	10
4,4'-diaminodiphenyl ether	101804	10
4,4'-Methylenebis(2-chloroaniline)	101144	10
4,4'-methylenebis(2-methylaniline)	838880	10
4,4'-methylenebis(N,N-dimethyl)benzenamine	101611	10
4,4'-Methylenedianiline	101779	10
4,4'-thiodianiline	139651	10
4,6-Dinitro-o-cresol and salts	534521	10
4-Aminobiphenyl	92671	1
4-Aminopyridine	504245	100
4-Bromophenyl phenyl	101553	10

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ether		
4-chloro-m-phenylenediamine	5131602	10
4-chloro-o-phenylenediamine	95830	10
4-Chloro-o-toluidine, hydrochloride	3165933	10
4-Chlorophenyl ether	phenyl 7005723	500
4-Nitrobiphenyl	92933	10
5-(Aminomethyl)-3-isoxazolol	2763964	100
5-chloro-o-toluidine	95794	10
5-nitroacenaphthene	602879	10
5-nitro-o-anisidine	99592	1
5-Nitro-o-toluidine	99558	10
7,12-Dimethylbenz[a]anthracene	57976	1
abietic acid	514103	10
Acenaphthene	83329	10
Acenaphthylene	208968	500
Acetaldehyde	75070	100
Acetaldehyde, trichloro-	75876	500
Acetamide	60355	10
Acetic acid	64197	500
Acetic anhydride	108247	500
Acetone	67641	500
Acetonitrile	75058	500
Acetophenone	98862	500
Acetyl bromide	506967	500
Acetyl chloride	75365	500
Acrolein	107028	1
Acrylamide	79061	500
Acrylic acid	79107	500
Acrylonitrile	107131	10
actinomycin D	50760	10
Adipic acid	124049	500
Aflatoxins	1402682	1
Aldicarb	116063	1
Aldicarb sulfone	1646884	1
Aldrin	309002	1
Allyl alcohol	107186	10
Allyl chloride	107051	100
alpha – Endosulfan	959988	1
alpha-BHC	319846	10
alpha-Hexachlorocyclohexane	319846	10
alpha-Naphthylamine	134327	10
Aluminum phosphide	20859738	10
Aluminum sulfate	10043013	500

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Aminoazobenzene	60093	10
Amitrole	61825	10
Ammonia	7664417	10
Ammonium acetate	631618	500
Ammonium benzoate	1863634	500
Ammonium bicarbonate	1066337	500
Ammonium bichromate	7789095	10
Ammonium bifluoride	1341497	10
Ammonium bisulfite	10192300	500
Ammonium carbamate	1111780	500
Ammonium carbonate	506876	500
Ammonium chloride	12125029	500
Ammonium chromate	7788989	10
Ammonium citrate, dibasic	3012655	500
Ammonium fluoborate	13826830	500
Ammonium fluoride	12125018	10
Ammonium hydroxide	1336216	100
Ammonium oxalate	14258492	500
Ammonium oxalate	5972736	500
Ammonium oxalate	6009707	500
Ammonium picrate	131748	10
Ammonium silicofluoride	16919190	100
Ammonium sulfamate	7773060	500
Ammonium sulfide	12135761	10
Ammonium sulfite	10196040	500
Ammonium tartrate	3164292	500
Ammonium tartrate	14307438	500
Ammonium thiocyanate	1762954	500
Ammonium vanadate	7803556	100
Amyl acetate	628637	500
Anilazine	101053	1
Aniline	62533	500
aniline hydrochloride	142041	10
Anthracene	120127	500
Antimony	7440360	500
ANTIMONY COMPOUNDS		1
Antimony pentachloride	7647189	100
Antimony potassium tartrate	28300745	10
Antimony tribromide	7789619	100
Antimony trichloride	10025919	100
Antimony trifluoride	7783564	100
Antimony trioxide	1309644	100
antimycin A	1397940	1
Aramite	140578	1
Aroclor 1016	12674112	1
Aroclor 1221	11104282	1
Aroclor 1232	11141165	1
Aroclor 1242	53469219	1

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Aroclor 1248	12672296	1
Aroclor 1254	11097691	1
Aroclor 1260	11096825	1
Arsenic	7440382	1
Arsenic acid	1327522	1
Arsenic acid	7778394	1
ARSENIC COMPOUNDS		1
Arsenic disulfide	1303328	1
Arsenic pentoxide	1303282	1
Arsenic trioxide	1327533	1
Arsenic trisulfide	1303339	1
Arsenous trichloride	7784341	1
Asbestos (friable)	1332214	1
Auramine	492808	10
Azaserine	115026	1
azinphos-ethyl	2642719	1
Aziridine, 2-methyl	75558	1
Azobenzene	103333	1
Barban	101279	1
Barban	101279	10
Barium cyanide	542621	10
Bendiocarb	22781233	10
Bendiocarb phenol	22961826	1
Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-	1582098	10
Benomyl	17804352	1
Benomyl	17804352	10
Benz[a]anthracene	56553	10
Benz[c]acridine	225514	10
Benzal chloride	98873	500
Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)	23950585	500
Benzene	71432	10
Benzene, 2,4-diisocyanato-1-methyl-	584849	10
Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-hydroxy-, ethyl ester	510156	10
Benzeneethanamine, alpha, alpha-dimethyl-	122098	500
Benzenemethanol, 4-chloro-.alpha.-4-chlorophenyl)-.alpha.-(trichloromethyl)-	115322	10
Benzenesulfonyl chloride	98099	10
Benzenethiol	108985	10
Benzidine	92875	1
Benzidine (and salts)		1
Benzo(k)fluoranthene	207089	500



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Benzo[a]pyrene	50328	1
Benzo[b]fluoranthene	205992	1
Benzo[ghi]perylene	191242	500
Benzoic acid	65850	500
Benzoic trichloride	98077	10
Benzonitrile	100470	500
Benzoyl chloride	98884	100
Benzyl chloride	100447	10
Beryllium	7440417	10
Beryllium chloride	7787475	1
BERYLLIUM COMPOUNDS		1
Beryllium fluoride	7787497	1
Beryllium nitrate	7787555	1
Beryllium nitrate	13597994	1
beta – Endosulfan	33213659	1
beta-BHC	319857	1
beta-Naphthylamine	91598	10
beta-Propiolactone	57578	10
Biphenyl	92524	10
Bis(2-chloro-1-methylethyl)ether	108601	100
Bis(2-chloroethoxy) methane	111911	100
Bis(2-chloroethyl) ether	111444	10
Bis(2-ethylhexyl)phthalate	117817	10
Bis(chloromethyl) ether	542881	10
Bis(dimethylthiocarbamoyl) sulfide	97745	1
Bromoacetone	598312	100
Bromoform	75252	10
Bromomethane	74839	100
Bromoxynil	1689845	1
Brucine	357573	10
Butyl acetate	123864	500
Butyl benzyl phthalate	85687	10
Butylamine	109739	100
Butylate	2008415	1
butylbutanol nitrosamine	3817116	10
Butylethylcarbamothioic acid S-propyl ester	1114712	1
Butyric acid	107926	500
Cacodylic acid	75605	1
Cadmium	7440439	10
Cadmium acetate	543908	10
Cadmium bromide	7789426	10
Cadmium chloride	10108642	10
CADMIUM COMPOUNDS		1
Calcium arsenate	7778441	1
Calcium arsenite	52740166	1

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Calcium carbide	75207	10
Calcium chromate	13765190	10
Calcium cyanamide	156627	100
Calcium cyanide	592018	10
Calcium dodecylbenzenesulfonate	26264062	100
Calcium hypochlorite	7778543	10
Caprolactam	105602	500
Captafol	2425061	1
Captan	133062	10
Carbamic acid, methyl-, O-(((2,4-dimethyl-1,3-dithiolan-2-yl)methylene)amino)-	26419738	1
Carbamodithioic acid, dibutyl-, sodium salt	136301	1
Carbamodithioic acid, diethyl-, sodium salt	148185	1
Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2-propenyl)ester	2303164	10
Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	52888809	1
Carbamothioic acid, dipropyl-, S-propyl ester	1929777	1
Carbaryl	63252	10
Carbendazim	10605217	1
Carbofuran	1563662	10
Carbofuran phenol	1563388	1
Carbon disulfide	75150	10
Carbon oxide sulfide (COS)	463581	10
Carbon tetrachloride	56235	10
Carbonic difluoride	353504	100
Carbonochloridic acid, methylester	79221	100
Carbonyl sulfide	463581	10
Carbophenothion	786196	1
Carbosulfan	55285148	1
Catechol	120809	10
Chloramben	133904	10
Chlorambucil	305033	10
Chloramines		1
Chlordane	57749	1
Chlorfenvinphos	470906	10
CHLORINATED BENZENES		1
Chlorinated dibenzofurans		1
Chlorinated dioxins		1
CHLORINATED		1

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ETHANES		
CHLORINATED NAPHTHALENE		1
CHLORINATED PHENOLS		1
Chlorine	7782505	10
Chlorine (elemental and hypochlorite salts)		10
Chlornaphazine	494031	10
Chloroacetaldehyde	107200	100
Chloroacetic acid	79118	10
CHLOROALKYL ETHERS		1
Chlorobenzene	108907	10
Chlorodibromomethane	124481	10
Chloroethane	75003	10
Chloroform	67663	10
Chloromethane	74873	10
Chloromethyl methyl ether	107302	10
Chloroprene	126998	10
Chlorosulfonic acid	7790945	100
Chlorpyrifos	2921882	1
Chromic acetate	1066304	100
Chromic acid	7738945	10
Chromic acid	11115745	10
Chromic sulfate	10101538	100
Chromium	7440473	500
CHROMIUM COMPOUNDS		1
Chromous chloride	10049055	100
Chrysene	218019	10
Clonitralid	1420048	10
COBALT COMPOUNDS		1
Cobaltous bromide	7789437	100
Cobaltous formate	544183	100
Cobaltous sulfamate	14017415	100
COKE OVEN EMISSIONS		1
Copper	7440508	500
COPPER COMPOUNDS		1
Copper cyanide	544923	10
Copper, bis(dimethylcarbamodithioa to-S,S')-	137291	1
Coumaphos	56724	10
Creosote	8001589	1
Cresol (mixed isomers)	1319773	10
Crotoxyphos	7700176	10
Cumene	98828	500
Cumene hydroperoxide	80159	10
Cupferron	135206	10
Cupric acetate	142712	10

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Cupric acetoarsenite (Paris green)	12002038	1
Cupric chloride	7447394	10
Cupric nitrate	3251238	10
Cupric oxalate	5893663	10
Cupric sulfate	7758987	10
Cupric sulfate, ammoniated	10380297	10
Cupric tartrate	815827	10
CYANIDE COMPOUNDS		1
Cyanides (soluble salts and complexes)	57125	10
Cyanogen	460195	10
Cyanogen bromide	506683	100
Cyanogen chloride	506774	10
Cycasin	14901087	10
Cycloate	1134232	1
Cyclohexane	110827	100
Cyclohexanone	108941	500
Cycloheximide	66819	1
Cyclophosphamide	50180	10
Daunomycin	20830813	10
DDD	72548	1
DDE	3547044	500
DDE	72559	1
DDT	50293	1
DDT (p'p', o'p' and technical salts)		1
DDT AND METABOLITES		1
dehydroabiatic acid	1740198	10
delta-BHC	319868	1
Demeton	8065483	1
Diaminotoluene	496720	10
Diaminotoluene	823405	10
Diazinon	333415	1
Diazomethane	334883	10
Dibenz[a,h]anthracene	53703	1
Dibenz[a,i]pyrene	189559	10
Dibenzofuran	132649	10
Dichlobenil	1194656	10
Dichlone	117806	1
Dichlorobenzene	25321226	10
DICHLOROBENZIDENE		1
Dichlorobromomethane	75274	500
Dichlorodifluoromethane (CFC-12)	75718	500
Dichloroisopropyl ether	108601	100
Dichlorophenylarsine	696286	1
Dichloropropane	26638197	100
Dichloropropane –	8003198	10
Dichloropropene (mixture)		

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Dichloropropene	26952238	10
Dichlorvos	62737	10
Dichrotophos	141662	1
Dicofol	115322	10
Dieldrin	60571	1
Diepoxybutane	1464535	10
Diethanolamine	111422	10
Diethyl phthalate	84662	100
Diethyl sulfate	64675	10
Diethylamine	109897	10
Diethylarsine	692422	1
Diethyl-p-nitrophenyl phosphate	311455	10
Diethylstilbestrol	56531	1
Dihydrosafrole	94586	10
Diisopropylfluorophosphate	55914	10
Dimethoate	60515	10
dimethyl disulphide	624920	10
Dimethyl phthalate	131113	500
Dimethyl sulfate	77781	10
Dimethylamine	124403	100
Dimethylaminoazobenzene	60117	10
Dimethylcarbamyl chloride	79447	1
Dimethylformamide	68122	10
Dimetilan	644644	1
Dinitrobenzene (mixed isomers)	25154545	10
Dinitrophenol	25550587	10
Dinitrotoluene (mixed isomers)	25321146	10
Dinocap	39300453	1
Di-n-octyl phthalate	117840	500
Dinoseb	88857	100
Dioxathion	78342	1
diphenyl ether	101848	10
DIPHENYLHYDRAZINE		1
Diphosphoramide, octamethyl-	152169	10
Dipropylamine	142847	500
Diquat	85007	100
Diquat	2764729	100
Disulfiram	97778	1
Disulfoton	298044	1
Diuron	330541	10
Dodecylbenzenesulfonic acid	27176870	100
Endosulfan	115297	1
ENDOSULFAN AND METABOLITES		1
Endosulfan sulfate	1031078	1

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Endothall	145733	100
Endrin	72208	1
Endrin aldehyde	7421934	1
ENDRIN AND METABOLITES		1
Epichlorohydrin	106898	10
Epinephrine	51434	100
EPN	2104645	1
Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558431	1
Ethanimidothioic acid, N-[[methylamino)carbonyl]	16752775	10
Ethanol, 2,2'-oxybis-, dicarbamate	5952261	1
Ethion	563122	10
Ethyl acetate	141786	500
Ethyl acrylate	140885	100
Ethyl cyanide	107120	10
Ethyl dipropylthiocarbamate	759944	1
Ethyl ether	60297	10
Ethyl methacrylate	97632	100
Ethyl methanesulfonate	62500	1
Ethyl Ziram	14324551	1
Ethylbenzene	100414	100
Ethylene glycol	107211	500
Ethylene oxide	75218	10
Ethylene thiourea	96457	10
Ethylenebisdithiocarbamic acid, salts & esters	111546	500
Ethylenediamine	107153	500
Ethylenediamine-tetraacetic acid (EDTA)	60004	500
Ethyleneimine	151564	1
Famphur	52857	100
Fensulfothion	115902	1
Fenthion	55389	1
Ferric ammonium citrate	1185575	100
Ferric ammonium oxalate	2944674	100
Ferric ammonium oxalate	55488874	100
Ferric chloride	7705080	100
Ferric fluoride	7783508	10
Ferric nitrate	10421484	100
Ferric sulfate	10028225	100
Ferrous ammonium sulfate	10045893	100
Ferrous chloride	7758943	10
Ferrous sulfate	7720787	100
Ferrous sulfate	7782630	100

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Fine mineral fibers		
Fluchloralin	33245395	1
Fluoranthene	206440	10
Fluorene	86737	500
Fluorine	7782414	10
Fluoroacetamide	640197	10
Formaldehyde	50000	10
Formetanate hydrochloride	23422539	1
Formic acid	64186	500
Formparanate	17702577	1
Fumaric acid	110178	500
Furan	110009	10
Furan, tetrahydro-	109999	100
Furathiazole	531828	1
Furfural	98011	500
Glycidylaldehyde	765344	10
GLYCOL ETHERS		1
Guanidine, N-methyl-N'-nitro-N-nitroso-	70257	10
Guthion	86500	1
HALOETHERS		1
HALOMETHANES		1
Heptachlor	76448	1
HEPTACHLOR AND METABOLITES		1
Heptachlor epoxide	1024573	1
Hexachlorobenzene	118741	10
Hexachlorobutadiene	87683	1
hexachlorocyclohexane (all isomers)	608731	1
Hexachlorocyclopentadiene	77474	10
Hexachloroethane	67721	10
Hexachlorophene	70304	10
Hexachloropropene	1888717	100
Hexaethyl tetraphosphate	757584	10
Hexamethylene-1,6-diisocyanate	822060	10
Hexamethylphosphoramide	680319	1
Hexane	110543	500
Hydrazine	302012	1
Hydrazine, 1,2-diethyl-	1615801	10
Hydrazine, 1,2-dimethyl-	540738	1
Hydrochloric acid	7647010	500
Hydrofluoric acid	7664393	10
Hydrogen cyanide	74908	10
Hydrogen sulfide	7783064	10
Hydroquinone	123319	10
Indeno(1,2,3-cd)pyrene	193395	10
iso-Amyl acetate	123922	500
iso-Butyl acetate	110190	500

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Isobutyl alcohol	78831	500
iso-Butylamine	78819	100
iso-Butyric acid	79312	500
Isodrin	465736	1
isonicotinic acid hydrazine	54853	10
Isophorone	78591	500
Isoprene	78795	10
Isopropanolamine dodecylbenzene sulfonate	42504461	100
Isopropylmethylpyrazolyl dimethylcarbamate	119380	1
Isosafrole	120581	10
kanechlor C	59299513	10
Kepone	143500	1
Ketene	463514	1
Lactonitrile	78977	10
Lasiocarpine	303344	10
Lead	7439921	10
Lead acetate	301042	10
Lead arsenate	10102484	1
Lead arsenate	7784409	1
Lead arsenate	7645252	1
Lead chloride	7758954	10
LEAD COMPOUNDS		1
Lead fluoborate	13814965	10
Lead fluoride	7783462	10
Lead iodide	10101630	10
Lead nitrate	10099748	10
Lead phosphate	7446277	10
Lead stearate	56189094	10
Lead stearate	1072351	10
Lead stearate	7428480	10
Lead stearate	52652592	10
Lead subacetate	1335326	10
Lead sulfate	7446142	10
Lead sulfate	15739807	10
Lead sulfide	1314870	10
Lead thiocyanate	592870	10
Leptophos	21609905	1
Lindane	58899	1
Lithium and lithium salts		1
malachite green	569642	1
Malathion	121755	10
Maleic acid	110167	500
Maleic anhydride	108316	500
Maleic hydrazide	123331	500
Malononitrile	109773	100
MANGANESE COMPOUNDS		1
Manganese,	15339363	1



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bis(dimethylcarbamodithioa to-S,S')-		
m-Cresol	108394	10
m-Dinitrobenzene	99650	10
Melphalan	148823	1
Mercuric cyanide	592041	1
Mercuric nitrate	10045940	10
Mercuric sulfate	7783359	10
Mercuric thiocyanate	592858	10
Mercurous nitrate	10415755	10
Mercurous nitrate	7782867	10
Mercury	7439976	1
MERCURY COMPOUNDS		1
Mercury fulminate	628864	10
Mestranol	72333	10
Methacrylonitrile	126987	100
Methanol	67561	500
Methapyrilene	91805	500
Methiocarb	2032657	10
Methoxychlor	72435	1
Methyl ethyl ketone (MEK)	78933	500
Methyl ethyl ketone peroxide	1338234	10
Methyl hydrazine	60344	10
Methyl iodide	74884	10
Methyl isobutyl ketone	108101	500
Methyl isocyanate	624839	10
Methyl mercaptan	74931	10
Methyl methacrylate	80626	100
Methyl parathion	298000	10
Methyl tert-butyl ether	1634044	100
Methylene bromide	74953	100
Methylene chloride	75092	100
Methylenebis(phenylisocya nate)	101688	500
Methylthiouracil	56042	10
Metolcarb	1129415	1
Mevinphos	7786347	10
Mexacarbate	315184	100
Mirex	2385855	1
Mitomycin C	50077	10
m-Nitrophenol	554847	10
m-Nitrotoluene	99081	100
Monocrotaline	315220	10
Monocrotophos	6923224	1
Monoethylamine	75047	10
Monomethylamine	74895	10
mustard gas	505602	10
m-Xylene	108383	100
N-(2-	1072522	10

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hydroxyethyl)ethyleneimine		
N,N-Diethylaniline	91667	100
N,N'-diethylthiourea	105555	10
N,N-Dimethylaniline	121697	10
Naled	300765	10
Naphthalene	91203	10
Naphthenic acid	1338245	10
n-Butyl alcohol	71363	500
n-Butyl phthalate	84742	10
neoabietic acid	471772	1
Nickel	7440020	10
Nickel ammonium sulfate	15699180	10
Nickel carbonyl	13463393	10
Nickel chloride	37211055	10
Nickel chloride	7718549	10
NICKEL COMPOUNDS		1
Nickel cyanide	557197	10
Nickel hydroxide	12054487	10
Nickel nitrate	14216752	10
Nickel sulfate	7786814	10
Nicotine and salts	54115	10
Nicotine sulfate	65305	10
Nifurthiazole	3570750	10
Niridazole	61574	10
Nithiazide	139946	10
Nitric acid	7697372	100
Nitric oxide	10102439	10
Nitrobenzene	98953	100
Nitrofen	1836755	10
Nitrogen dioxide	10102440	10
Nitrogen dioxide	10544726	10
nitrogen mustard	51752	10
Nitroglycerin	55630	10
Nitrophenol (mixed isomers)	25154556	10
NITROPHENOLS		1
NITROSAMINES		1
Nitrotoluene	1321126	100
N-methyl formamide	123397	10
N-Nitrosodiethanolamine	1116547	1
N-Nitrosodiethylamine	55185	1
N-Nitrosodimethylamine	62759	10
N-Nitrosodi-n-butylamine	924163	10
N-Nitrosodi-n-propylamine	621647	10
N-Nitrosodiphenylamine	86306	10
N-Nitrosomethylvinylamine	4549400	10
N-Nitrosomorpholine	59892	1
N-nitrosomorpholine	59892	10
N-Nitroso-N-ethylurea	759739	1
N-Nitroso-N-methylurea	684935	1

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N-Nitroso-N-methylurethane	615532	1
N-Nitrosopiperidine	100754	10
N-Nitrosopyrrolidine	930552	1
N-nitrososarcosine	13256229	10
n-Propylamine	107108	500
O,O-Diethyl O-pyrazinyl phosphorothioate	297972	10
O,O-Diethyl S-methyl dithiophosphate	3288582	500
o-aminoazotoluene	97563	10
o-Anisidine	90040	10
o-anisidine hydrochloride	134292	10
o-Cresol	95487	10
Octachlorostyrene	29082744	10
o-Dichlorobenzene	95501	10
o-Dinitrobenzene	528290	10
o-Nitrotoluene	88722	100
o-phenylphenol	90437	10
Osmium tetroxide	20816120	100
o-Toluidine	95534	10
o-Toluidine hydrochloride	636215	10
Oxamyl	23135220	1
Oxydemetonmethyl	301122	10
o-Xylene	95476	100
Paraformaldehyde	30525894	100
Paraldehyde	123637	100
Paraquat	1910425	10
Parathion	56382	10
p-Chloroaniline	106478	100
p-Chloro-m-cresol	59507	500
p-chlorophenol	106489	10
p-cresidine	120718	10
p-Cresol	106445	10
p-Dinitrobenzene	100254	10
Pentachlorobenzene	608935	10
Pentachloroethane	76017	10
Pentachloronitrobenzene	82688	10
Pentachlorophenol	87865	10
Pentachlorophenol (and salts)		10
Perchloromethyl mercaptan	594423	10
Phenacetin	62442	10
Phenanthrene	85018	500
phenazopyridine hydrochloride	136403	10
Phenesterin	3546109	10
Phenobarbitol	50066	10
Phenol	108952	100
Phenol, 2-(1-methylethoxy)-	114261	10

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, methylcarbamate		
Phenol, 3-(1-methylethyl)-, methylcarbamate	64006	1
Phenylmercury acetate	62384	10
Phenylthiourea	103855	10
Phenytoin	57410	10
phenytoin sodium	630933	10
Phorate	298022	10
Phosazetim	4104147	1
Phosgene	75445	10
Phosmet	732116	10
Phosphamidon	13171216	1
Phosphine	7803512	10
Phosphoric acid	7664382	500
Phosphorous trichloride	7719122	100
Phosphorus	7723140	1
Phosphoryl chloride	10025873	100
PHthalate ESTERS		1
Phthalic anhydride	85449	500
Physostigmine	57476	1
Physostigmine, salicylate (1:1)	57647	1
Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-	120547	1
piperonyl sulfoxide	120627	10
p-Nitroaniline	100016	500
p-Nitrophenol	100027	10
p-nitrosodiphenylamine	156105	10
p-Nitrotoluene	99990	100
Polybrominated biphenyls		1
Polychlorinated biphenyls	1336363	1
POLYCYCLIC ORGANIC MATTER		1
POLYNUCLEAR AROMATIC HYDROCARBONS		1
Potassium arsenate	7784410	1
Potassium arsenite	10124502	1
Potassium bichromate	7778509	10
Potassium chromate	7789006	10
Potassium cyanide	151508	10
Potassium dimethyldithiocarbamate	128030	1
Potassium hydroxide	1310583	100
Potassium N-hydroxymethyl-N-methyldithiocarbamate	51026289	1
Potassium N-methyldithiocarbamate	137417	1

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Potassium permanganate	7722647	10
Potassium silver cyanide	506616	1
p-Phenylenediamine	106503	500
Promecarb	2631370	1
Propane sultone	1120714	10
Propargite	2312358	10
Propargyl alcohol	107197	100
Propham	122429	1
Propionaldehyde	123386	100
Propionic acid	79094	500
Propionic anhydride	123626	500
Propylene oxide	75569	10
Propylthiouracil	51525	10
p-Toluidine	106490	10
p-Xylene	106423	10
Pyrene	129000	500
Pyrethrins	121299	1
Pyrethrins	121211	1
Pyrethrins	8003347	1
Pyridine	110861	100
Quinoline	91225	500
Quinone	106514	10
Reserpine	50555	500
Resorcinol	108463	500
Rotenone	83794	1
Saccharin and salts	81072	10
Safrole	94597	10
sec-Amyl acetate	626380	500
sec-Butyl acetate	105464	500
sec-Butylamine	513495	100
sec-Butylamine	13952846	100
Selenious acid	7783008	10
Selenious acid, dithallium(1+) salt	12039520	100
Selenium	7782492	10
SELENIUM COMPOUNDS		1
Selenium dioxide	7446084	10
Selenium sulfide	7488564	10
Selenium, tetrakis(dimethyldithiocarbamate)	144343	1
Selenourea	630104	100
Semicarbazide	57567	10
semicarbazide hydrochloride	563417	10
Silver	7440224	100
SILVER COMPOUNDS		1
Silver cyanide	506649	1
Silver nitrate	7761888	1
Silvex (2,4,5-TP)	93721	10

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silvex, propylene glycol butyl ether ester	2317240	10
Sodium	7440235	10
Sodium arsenate	7631892	1
Sodium arsenite	7784465	1
Sodium azide (Na(N <sub>3</sub> ))	26628228	100
Sodium bichromate	10588019	10
Sodium bifluoride	1333831	10
Sodium bisulfite	7631905	500
Sodium chromate	7775113	10
Sodium cyanide (Na(CN))	143339	10
Sodium dimethyldithiocarbamate	128041	1
Sodium dodecylbenzenesulfonate	25155300	100
Sodium fluoride	7681494	100
Sodium fluoroacetate	62748	10
sodium fluoroacetate	62748	1
Sodium hydrosulfide	16721805	500
Sodium hydroxide	1310732	100
Sodium hypochlorite	10022705	10
Sodium hypochlorite	7681529	10
Sodium methylate	124414	100
Sodium methyldithiocarbamate	137428	1
Sodium nitrite	7632000	10
Sodium phosphate, dibasic	10039324	500
Sodium phosphate, dibasic	10140655	500
Sodium phosphate, dibasic	7558794	500
Sodium phosphate, tribasic	10361894	500
Sodium phosphate, tribasic	7785844	500
Sodium phosphate, tribasic	7601549	500
Sodium phosphate, tribasic	7758294	500
Sodium phosphate, tribasic	10101890	500
Sodium phosphate, tribasic	10124568	500
Sodium selenite	7782823	10
Sodium selenite	10102188	10
sodium-o-phenylphenol	132274	10
Streptozotocin	18883664	1
Strontium chromate	7789062	10
Strychnine, and salts	57249	10
Strychnine, sulfate	60413	10
Styrene	100425	100
Styrene oxide	96093	10
Sulfallate	95067	1
Sulfallate	95067	10
Sulfur monochloride	12771083	100
Sulfur phosphide	1314803	10
Sulfuric acid	7664939	100
Sulfuric acid (fuming)	8014957	100

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Terbufos	13071799	1
tert-Amyl acetate	625161	500
tert-Butyl acetate	540885	500
tert-Butylamine	75649	100
Tetrabutylthiuram disulfide	1634022	1
Tetrachloroethylene	127184	10
Tetrachloroguaiacol	2539175	10
Tetrachlorvinphos	961115	10
Tetraethyl lead	78002	10
Tetraethyl pyrophosphate	107493	10
Tetraethyldithiopyrophosphate	3689245	10
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione	533744	1
Tetranitromethane	509148	10
THALLIUM COMPOUNDS		1
Thallic oxide	1314325	10
Thallium	7440280	100
Thallium chloride TlCl	7791120	10
Thallium sulfate	10031591	10
Thallium(I) acetate	563688	10
Thallium(I) carbonate	6533739	10
Thallium(I) nitrate	10102451	10
Thallium(I) sulfate	7446186	10
Thioacetamide	62555	10
Thiodicarb	59669260	1
Thiofanox	39196184	10
Thiophanate-methyl	23564058	1
Thiosemicarbazide	79196	10
Thiourea	62566	10
Thiourea, (2-chlorophenyl)-	5344821	10
Thiourea, 1-naphthalenyl-	86884	10
Thiram	137268	10
Titanium chloride (TiCl <sub>4</sub> ) (T-4)-	7550450	100
Titanium tetrachloride	7550450	100
Toluene	108883	100
Toluene diisocyanate (unspecified isomer)	26471625	10
Toluene-2,6-diisocyanate	91087	10
Toluenediamine	25376458	10
Toxaphene	8001352	1
Triallate	2303175	1
Triaryl phosphate esters		10
Tributyltin (and salts and esters)		1
Trichlorfon	52686	10
Trichloroethylene	79016	10

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Trichlorofluoromethane (CFC-11)	75694	500
Trichlorophenol	25167822	10
Triethanolamine dodecylbenzene sulfonate	27323417	100
Triethylamine	121448	500
Trimethylamine	75503	10
Trimethylphosphate	512561	1
Tris(2,3-dibromopropyl) phosphate	126727	10
Tris(dimethylcarbamodithioato-S,S')iron	14484641	1
Trypan blue	72571	10
Uracil mustard	66751	10
Uranyl acetate	541093	10
Uranyl nitrate	36478769	10
Uranyl nitrate	10102064	10
Urethane	51796	10
Vanadium pentoxide	1314621	100
Vanadyl sulfate	27774136	100
Vinyl acetate	108054	500
Vinyl bromide	593602	10
Vinyl chloride	75014	1
Warfarin sodium	129066	10
Warfarin, & salts, conc.>0.3%	81812	10
Xylene (mixed isomers)	1330207	10
Xylenol	1300716	100
Zinc	7440666	100
Zinc (fume or dust)	7440666	100
Zinc acetate	557346	100
Zinc ammonium chloride	14639986	100
Zinc ammonium chloride	14639975	100
Zinc ammonium chloride	52628258	100
Zinc borate	1332076	100
Zinc bromide	7699458	100
Zinc carbonate	3486359	100
Zinc chloride	7646857	100
ZINC COMPOUNDS		1
Zinc cyanide	557211	10
Zinc fluoride	7783495	100
Zinc formate	557415	100
Zinc hydrosulfite	7779864	100
Zinc nitrate	7779886	100
Zinc phenolsulfonate	127822	500
Zinc phosphide	1314847	10
Zinc phosphide (conc. <= 10%)	1314847	10
Zinc silicofluoride	16871719	500
Zinc sulfate	7733020	100



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Ziram	137304	1
Zirconium nitrate	13746899	500
Zirconium       potassium fluoride	16923958	100
Zirconium sulfate	14644612	500
Zirconium tetrachloride	10026116	500

History: 2001 MR 16, Eff. Aug. 31, 2001.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**SURFACE WATER QUALITY DIVISION**

**CLEAN MICHIGAN INITIATIVE NONPOINT SOURCE POLLUTION CONTROL GRANTS**

**R 324.8801**

**Source:** 1998-2000 AACS.

**R 324.8802**

**Source:** 1998-2000 AACS.

**R 324.8803**

**Source:** 1998-2000 AACS.

**R 324.8804**

**Source:** 1998-2000 AACS.

**R 324.8805**

**Source:** 1998-2000 AACS.

**R 324.8806**

**Source:** 1998-2000 AACS.

**R 324.8807**

**Source:** 1998-2000 AACS.

**R 324.8808**

**Source:** 1998-2000 AACS.

**R 324.8809**

**Source:** 1998-2000 AACS.

**R 324.8810**

**Source:** 1998-2000 AACS.

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY**

**SURFACE WATER QUALITY DIVISION**

**CLEAN WATER FUND**

**R 324.8901**

**Source:** 1998-2000 AACS.

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**R 324.8902**

**Source:** 1998-2000 AACS.

**R 324.8903**

**Source:** 1998-2000 AACS.

**R 324.8904**

**Source:** 1998-2000 AACS.

**R 324.8905**

**Source:** 1998-2000 AACS.

**R 324.8906**

**Source:** 1998-2000 AACS.

**R 324.8907**

**Source:** 1998-2000 AACS.

**R 324.8908**

**Source:** 1998-2000 AACS.

**R 324.8909**

**Source:** 1998-2000 AACS.

**R 324.8910**

**Source:** 1998-2000 AACS.

**R 324.8911**

**Source:** 1998-2000 AACS.

**R 324.8912**

**Source:** 1998-2000 AACS.

**R 324.8913**

**Source:** 1998-2000 AACS.

**R 324.8914**

**Source:** 1998-2000 AACS.

**R 324.8915 Conservation reserve enhancement program.**

Rule 15. (1) The department of environmental quality shall not use more than \$5,000,000.00 from the fund to provide state contribution for the establishment and implementation of the conservation reserve enhancement program.

(2) Money from the fund can be used for any of the following:

(a) Establishment of riparian buffer strips.

(b) Filter strips.

(c) Field windbreaks.

(d) Grassed waterways.

(e) Wetland restoration.

(f) Wetland creation.

(g) Other eligible practices related to water quality improvement specified in the conservation reserve enhancement program.

Fund money shall be used for onetime payment for voluntary permanent easements for the eligible practices. The department of environmental quality shall not use funds for rental incentive payments or for

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easements other than permanent easements.

(3) The department of environmental quality may enter into a memorandum of understanding with another state agency to provide the state contribution to the conservation reserve enhancement program.

(4) For the practices and activities identified in subrule (2) of this rule, the department of environmental quality and state agencies with whom the department enters into memorandums of understanding may provide direct payments to any of the following:

(a) Landowners who enroll in the conservation reserve enhancement program.

(b) Holders of the permanent easements.

(c) Other third parties responsible for the establishment of the eligible practices or the permanent easements.

History: 2000 Mr 11, Eff. Jul. 6, 2000; 2001, MR 2, Eff. Feb. 1, 2001.

**R 324.8916**

**Source:** 1998-2000 AACS.

**R 324.8917**

**Source:** 1998-2000 AACS.

**R 324.8918**

**Source:** 1998-2000 AACS.

**R 324.8919**

**Source:** 1998-2000 AACS.

**R 324.8920**

**Source:** 1998-2000 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**ENVIRONMENTAL ASSISTANCE DIVISION**

**SMALL BUSINESS POLLUTION PREVENTION ASSISTANCE LOAN**

**R 324.14501**

**Source:** 1998-2000 AACS.

**R 324.14502**

**Source:** 1998-2000 AACS.

**R 324.14503**

**Source:** 1998-2000 AACS.

**R 324.14504**

**Source:** 1998-2000 AACS.

**R 324.14505**

**Source:** 1998-2000 AACS.

**R 324.14506**

**Source:** 1998-2000 AACS.

**R 324.14507**

**Source:** 1998-2000 AACS.

**Annual Administrative Code Supplement  
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**R 324.14508**

**Source:** 1998-2000 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**STORAGE TANK DIVISION**

**MICHIGAN UNDERGROUND STORAGE TANK QUALIFIED  
CONSULTANTS AND CERTIFIED PROFESSIONALS**

**R 324.21501**

**Source:** 1998-2000 AACS.

**R 324.21502**

**Source:** 1998-2000 AACS.

**R 324.21503**

**Source:** 1998-2000 AACS.

**R 324.21504**

**Source:** 1998-2000 AACS.

**R 324.21505**

**Source:** 1998-2000 AACS.

**R 324.21506**

**Source:** 1998-2000 AACS.

**R 324.21507**

**Source:** 1998-2000 AACS.

**R 324.21508**

**Source:** 1998-2000 AACS.

**R 324.21509**

**Source:** 1998-2000 AACS.

**R 324.21510**

**Source:** 1998-2000 AACS.

**R 324.21511**

**Source:** 1998-2000 AACS.

**R 324.21512**

**Source:** 1998-2000 AACS.

**R 324.21513**

**Source:** 1998-2000 AACS.

**R 324.21514**

**Source:** 1998-2000 AACS.

**R 324.21515**

**Source:** 1998-2000 AACS.

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**R 324.21516**

**Source:** 1998-2000 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES  
CONTROL OF COMMUNICABLE DISEASES**

**R 325.1**

**Source:** 1998-2000 AACS.

**R 325.2**

**Source:** 1998-2000 AACS.

**R 325.3**

**Source:** 1998-2000 AACS.

**R 325.4**

**Source:** 1998-2000 AACS.

**R 325.5**

**Source:** 1998-2000 AACS.

**R 325.6**

**Source:** 1998-2000 AACS.

**R 325.7**

**Source:** 1998-2000 AACS.

**R 325.8**

**Source:** 1998-2000 AACS.

**R 325.9**

**Source:** 1998-2000 AACS.

**R 325.10**

**Source:** 1998-2000 AACS.

**R 325.11**

**Source:** 1998-2000 AACS.

**R 325.12**

**Source:** 1998-2000 AACS.

**R 325.13**

**Source:** 1998-2000 AACS.

**R 325.14**

**Source:** 1998-2000 AACS.

**R 325.15**

**Source:** 1998-2000 AACS.

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**R 325.16**

**Source:** 1998-2000 AACs.

**R 325.17**

**Source:** 1998-2000 AACs.

**R 325.18**

**Source:** 1998-2000 AACs.

**R 325.19**

**Source:** 1998-2000 AACs.

**R 325.20**

**Source:** 1998-2000 AACs.

**R 325.21**

**Source:** 1998-2000 AACs.

**R 325.22**

**Source:** 1998-2000 AACs.

**R 325.23**

**Source:** 1998-2000 AACs.

**R 325.24**

**Source:** 1998-2000 AACs.

**R 325.25**

**Source:** 1998-2000 AACs.

**R 325.26**

**Source:** 1998-2000 AACs.

**R 325.27**

**Source:** 1998-2000 AACs.

**R 325.28**

**Source:** 1998-2000 AACs.

**R 325.29**

**Source:** 1998-2000 AACs.

**R 325.30**

**Source:** 1998-2000 AACs.

**R 325.31**

**Source:** 1998-2000 AACs.

**R 325.32**

**Source:** 1998-2000 AACs.

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**R 325.33**

**Source:** 1998-2000 AACS.

**R 325.34**

**Source:** 1998-2000 AACS.

**R 325.35**

**Source:** 1998-2000 AACS.

**R 325.36**

**Source:** 1998-2000 AACS.

**R 325.37**

**Source:** 1998-2000 AACS.

**R 325.38**

**Source:** 1998-2000 AACS.

**R 325.39**

**Source:** 1998-2000 AACS.

**R 325.40**

**Source:** 1998-2000 AACS.

**R 325.41**

**Source:** 1998-2000 AACS.

**R 325.42**

**Source:** 1998-2000 AACS.

**R 325.43**

**Source:** 1998-2000 AACS.

**R 325.44**

**Source:** 1998-2000 AACS.

**R 325.45**

**Source:** 1998-2000 AACS.

**R 325.46**

**Source:** 1998-2000 AACS.

**R 325.47**

**Source:** 1998-2000 AACS.

**R 325.48**

**Source:** 1998-2000 AACS.

**R 325.49**

**Source:** 1998-2000 AACS.

**R 325.50**

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**Source:** 1998-2000 AACS.

**R 325.51**

**Source:** 1998-2000 AACS.

**R 325.52**

**Source:** 1998-2000 AACS.

**R 325.53**

**Source:** 1998-2000 AACS.

**R 325.54**

**Source:** 1998-2000 AACS.

**R 325.55**

**Source:** 1998-2000 AACS.

**R 325.56**

**Source:** 1998-2000 AACS.

**R 325.57**

**Source:** 1998-2000 AACS.

**R 325.58**

**Source:** 1998-2000 AACS.

**R 325.59**

**Source:** 1998-2000 AACS.

**R 325.60**

**Source:** 1981 AACS.

**R 325.61**

**Source:** 1997 AACS.

**R 325.70**

**Source:** 1997 AACS.

**R 325.71**

**Source:** 1997 AACS.

**R 325.72**

**Source:** 1997 AACS.

**R 325.80**

**Source:** 1997 AACS.

**R 325.81**

**Source:** 1997 AACS.

**R 325.90**

**Source:** 1997 AACS.

**R 325.100**

**Source:** 1997 AACS.



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**R 325.101**  
**Source:** 1997 AACS.

**R 325.102**  
**Source:** 1997 AACS.

**R 325.103**  
**Source:** 1997 AACS.

**R 325.104**  
**Source:** 1997 AACS.

**R 325.106**  
**Source:** 1997 AACS.

**R 325.107**  
**Source:** 1997 AACS.

**R 325.110**  
**Source:** 1997 AACS.

**R 325.115**  
**Source:** 1997 AACS.

**R 325.120**  
**Source:** 1997 AACS.

**R 325.121**  
**Source:** 1997 AACS.

**HEALTH LEGISLATION AND POLICY DEVELOPMENT**  
**CHILDHOOD IMMUNIZATION REGISTRY**

**R 325.161**  
**Source:** 1997 AACS.

**R 325.162**  
**Source:** 1997 AACS.

**R 325.163**  
**Source:** 1997 AACS.

**R 325.164**  
**Source:** 1997 AACS.

**R 325.165**  
**Source:** 1997 AACS.

**R 325.166**  
**Source:** 1997 AACS.

**R 325.167**  
**Source:** 1997 AACS.

**R 325.168**  
**Source:** 1997 AACS.

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**R 325.169**

**Source:** 1997 AACS.

**BUREAU OF INFECTIOUS DISEASE CONTROL**  
**COMMUNICABLE AND RELATED DISEASES**

**R 325.171**

**Source:** 1998-2000 AACS.

**R 325.172**

**Source:** 1998-2000 AACS.

**R 325.173**

**Source:** 1993 AACS.

**R 325.174**

**Source:** 1993 AACS.

**R 325.175**

**Source:** 1993 AACS.

**R 325.176**

**Source:** 1998-2000 AACS.

**R 325.177**

**Source:** 1993 AACS.

**R 325.178**

**Source:** 1998-2000 AACS.

**R 325.179**

**Source:** 1993 AACS.

**R 325.180**

**Source:** 1998-2000 AACS.

**R 325.181**

**Source:** 1993 AACS.

**R 325.199**

**Source:** 1993 AACS.

**RABIES**

**R 325.201**

**Source:** 1997 AACS.

**OFFICE OF THE DIRECTOR**  
**CONVALESCENT SERA AND VACCINES**

**R 325.210**

**Source:** 1997 AACS.

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**R 325.211**  
**Source:** 1997 AACS.

**R 325.212**  
**Source:** 1997 AACS.

**R 325.213**  
**Source:** 1997 AACS.

**R 325.214**  
**Source:** 1997 AACS.

**R 325.215**  
**Source:** 1997 AACS.

**R 325.216**  
**Source:** 1997 AACS.

**R 325.217**  
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**R 325.218**  
**Source:** 1997 AACS.

**R 325.219**  
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**R 325.220**  
**Source:** 1997 AACS.

**R 325.221**  
**Source:** 1997 AACS.

**R 325.222**  
**Source:** 1997 AACS.

**R 325.223**  
**Source:** 1997 AACS.

**R 325.224**  
**Source:** 1997 AACS.

**POLIOMYELITIS VACCINE**

**R 325.231**  
**Source:** 1997 AACS.

**R 325.232**  
**Source:** 1997 AACS.

**R 325.233**  
**Source:** 1997 AACS.

**R 325.234**  
**Source:** 1997 AACS.

**R 325.235**  
**Source:** 1997 AACS.

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**R 325.236**

**Source:** 1997 AACs.

**R 325.237**

**Source:** 1997 AACs.

**R 325.238**

**Source:** 1997 AACs.

**R 325.239**

**Source:** 1997 AACs.

**DIABETES RESEARCH**

**R 325.271**

**Source:** 1997 AACs.

**R 325.272**

**Source:** 1997 AACs.

**R 325.273**

**Source:** 1997 AACs.

**R 325.274**

**Source:** 1997 AACs.

**R 325.275**

**Source:** 1997 AACs.

**KIDNEY TRAINING**

**R 325.281**

**Source:** 1997 AACs.

**R 325.282**

**Source:** 1997 AACs.

**R 325.283**

**Source:** 1997 AACs.

**R 325.284**

**Source:** 1997 AACs.

**BUREAU OF PERSONAL HEALTH SERVICES**

**MIDWIVES**

**R 325.321—R 325.330**

**Source:** 1997 AACs.

**Editor's note:** These rescissions were transmitted to the Joint Committee on Administrative Rules on October 11, 1995. The Joint Committee on Administrative Rules certified the rescissions on November 8, 1995. The rules were filed with the Secretary of State on November 14, 1995. Section 46(1) of Act No. 306 of the Public Acts of 1969, as amended, being §24.246(1) of the Michigan Compiled Laws, provides in part "... An agency shall not file a rule, except an emergency rule under section 48, until at least 10 days after the date of the certificate of approval by the committee..."

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**MINIMUM STANDARDS FOR GROUP DAY CARE OF CHILDREN**

**R 325.341**

**Source:** 1997 AACS.

**R 325.342**

**Source:** 1997 AACS.

**R 325.343**

**Source:** 1997 AACS.

**COMMUNICABLE DISEASES IN CHILDREN IN GROUP RESIDENCE,  
CARE, EDUCATION, AND CAMPING**

**R 325.351**

**Source:** 1997 AACS.

**R 325.352**

**Source:** 1997 AACS.

**SPECIAL AGENTS OF BUREAU OF RECORDS AND STATISTICS**

**R 325.361**

**Source:** 1997 AACS.

**BARBER SHOPS**

**R 325.451**

**Source:** 1997 AACS.

**FOOD ESTABLISHMENTS**

**R 325.592**

**Source:** 1997 AACS.

**R 325.593**

**Source:** 1997 AACS.

**BOTTLE CAPS**

**R 325.741**

**Source:** 1997 AACS.

**TRAILER COACH PARKS**

**R 325.746**

**Source:** 1997 AACS.

**BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES  
CONTROL OF TUBERCULOSIS**

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**PART 1. STATE SUBSIDY**

**R 325.763**

**Source:** 1997 AACS.

**PART 2. ADMISSIONS TO TUBERCULOSIS HOSPITALS**

**R 325.771**

**Source:** 1997 AACS.

**R 325.772**

**Source:** 1997 AACS.

**R 325.773**

**Source:** 1997 AACS.

**R 325.775**

**Source:** 1997 AACS.

**PART 3. TRANSFERS, DISCHARGES, AND DEATHS**

**R 325.781**

**Source:** 1997 AACS.

**R 325.782**

**Source:** 1997 AACS.

**R 325.783**

**Source:** 1997 AACS.

**R 325.784**

**Source:** 1997 AACS.

**R 325.786**

**Source:** 1997 AACS.

**PART 4A. VOUCHERS FOR COUNTY CHARGE PATIENTS**

**R 325.801**

**Source:** 1997 AACS.

**R 325.802**

**Source:** 1997 AACS.

**R 325.803**

**Source:** 1997 AACS.

**R 325.804**

**Source:** 1997 AACS.

**PART 4B. VOUCHERS FOR STATE AT LARGE PATIENTS**

**R 325.811**

**Source:** 1997 AACS.

**R 325.812**

**Source:** 1997 AACS.

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**R 325.813**

**Source:** 1997 AACS.

**R 325.814**

**Source:** 1997 AACS.

**R 325.815**

**Source:** 1997 AACS.

**R 325.816**

**Source:** 1997 AACS.

**R 325.817**

**Source:** 1997 AACS.

**R 325.818**

**Source:** 1997 AACS.

**R 325.820**

**Source:** 1997 AACS.

**PART 5. REIMBURSEMENTS FOR CARE OF PATIENTS**

**R 325.831**

**Source:** 1997 AACS.

**R 325.832**

**Source:** 1997 AACS.

**R 325.833**

**Source:** 1997 AACS.

**R 325.834**

**Source:** 1997 AACS.

**PART 6. RECALCITRANT PATIENTS**

**R 325.841**

**Source:** 1997 AACS.

**R 325.842**

**Source:** 1997 AACS.

**R 325.843**

**Source:** 1997 AACS.

**R 325.844**

**Source:** 1997 AACS.

**R 325.845**

**Source:** 1997 AACS.

**R 325.846**

**Source:** 1997 AACS.

**R 325.847**

**Source:** 1997 AACS.

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**R 325.848**  
**Source:** 1997 AACS.

**R 325.849**  
**Source:** 1997 AACS.

**R 325.850**  
**Source:** 1997 AACS.

**R 325.851**  
**Source:** 1997 AACS.

**R 325.852**  
**Source:** 1997 AACS.

**PART 7. REIMBURSEMENT PROCEDURE**

**R 325.861**  
**Source:** 1997 AACS.

**R 325.862**  
**Source:** 1997 AACS.

**R 325.863**  
**Source:** 1997 AACS.

**R 325.864**  
**Source:** 1997 AACS.

**R 325.865**  
**Source:** 1997 AACS.

**R 325.866**  
**Source:** 1997 AACS.

**R 325.867**  
**Source:** 1997 AACS.

**R 325.871**  
**Source:** 1997 AACS.

**R 325.872**  
**Source:** 1997 AACS.

**R 325.873**  
**Source:** 1997 AACS.

**R 325.874**  
**Source:** 1997 AACS.

**R 325.875**  
**Source:** 1997 AACS.

**PART 8. VOLUNTARY AGREEMENTS BY PATIENTS TO MAKE REIMBURSEMENT**



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**R 325.881**  
**Source:** 1997 AACS.

**R 325.882**  
**Source:** 1997 AACS.

**R 325.883**  
**Source:** 1997 AACS.

**R 325.884**  
**Source:** 1997 AACS.

**R 325.885**  
**Source:** 1997 AACS.

**R 325.886**  
**Source:** 1997 AACS.

**PART 9. WITHHOLDING SUBSIDIES**

**R 325.891**  
**Source:** 1997 AACS.

**PART 10. REPORTS OF CHEST X-RAYS**

**R 325.896**  
**Source:** 1997 AACS.

**PART 11. EXAMINATION OF PERSONS IN HIGH EXPOSURE GROUPS**

**R 325.897**  
**Source:** 1997 AACS.

**R 325.898**  
**Source:** 1997 AACS.

**REIMBURSEMENT FOR OUTPATIENT SERVICES**

**R 325.901**  
**Source:** 1997 AACS.

**R 325.902**  
**Source:** 1997 AACS.

**HUMANE CARE AND USE OF ANIMALS**

**R 325.921**  
**Source:** 1980 AACS.

**R 325.922**  
**Source:** 1980 AACS.

**R 325.923**  
**Source:** 1980 AACS.

**R 325.924**

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**Source:** 1980 AACS.

**R 325.925**

**Source:** 1980 AACS.

**R 325.926**

**Source:** 1980 AACS.

**ANATOMY BOARD  
ANATOMICAL GIFTS**

**R 325.951**

**Source:** 1981 AACS.

**R 325.952**

**Source:** 1981 AACS.

**R 325.953**

**Source:** 1981 AACS.

**R 325.954**

**Source:** 1981 AACS.

**R 325.955**

**Source:** 1981 AACS.

**BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES  
HUMANE USE OF ANIMALS**

**R 325.981**

**Source:** 1997 AACS.

**R 325.982**

**Source:** 1997 AACS.

**R 325.983**

**Source:** 1997 AACS.

**R 325.984**

**Source:** 1997 AACS.

**R 325.985**

**Source:** 1997 AACS.

**R 325.986**

**Source:** 1997 AACS.

**R 325.987**

**Source:** 1997 AACS.

**R 325.988**

**Source:** 1997 AACS.

**R 325.989**

**Source:** 1997 AACS.

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**R 325.990**  
**Source:** 1997 AACS.

**R 325.991**  
**Source:** 1997 AACS.

**R 325.992**  
**Source:** 1997 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**  
**HEALTH FACILITIES SERVICES ADMINISTRATION**  
**MINIMUM STANDARDS FOR HOSPITALS**

**PART 3. OPERATIONAL RULES AND MINIMUM STANDARDS FOR ALL  
HOSPITAL-PHYSICAL PLANT, FACILITIES, EQUIPMENT, AND OPERATION**

**R 325.1053**  
**Source:** 1981 AACS.

**R 325.1054**  
**Source:** 1981 AACS.

**R 325.1056**  
**Source:** 1981 AACS.

**DEPARTMENT OF COMMUNITY HEALTH**  
**OFFICE OF THE DIRECTOR**  
**DONATED AND UNCLAIMED DEAD HUMAN BODIES OR PARTS**

**R 325.1171**  
**Source:** 1997 AACS.

**R 325.1172**  
**Source:** 1997 AACS.

**R 325.1173**  
**Source:** 1997 AACS.

**R 325.1174**  
**Source:** 1997 AACS.

**R 325.1175**  
**Source:** 1997 AACS.

**R 325.1176**  
**Source:** 1997 AACS.

**R 325.1177**  
**Source:** 1997 AACS.

**HEARINGS**

**R 325.1201**

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**Source:** 1997 AACS.

**R 325.1202**

**Source:** 1997 AACS.

**R 325.1203**

**Source:** 1997 AACS.

**R 325.1204**

**Source:** 1997 AACS.

**R 325.1205**

**Source:** 1997 AACS.

**R 325.1206**

**Source:** 1997 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**  
**BOARD OF EXAMINERS FOR SANITARIANS**

**R 325.1401**

**Source:** 1997 AACS.

**R 325.1402**

**Source:** 1997 AACS.

**R 325.1403**

**Source:** 1997 AACS.

**R 325.1404**

**Source:** 1997 AACS.

**R 325.1405**

**Source:** 1997 AACS.

**R 325.1406**

**Source:** 1997 AACS.

**R 325.1407**

**Source:** 1997 AACS.

**R 325.1408**

**Source:** 1997 AACS.

**R 325.1409**

**Source:** 1997 AACS.

**R 325.1410**

**Source:** 1997 AACS.

**R 325.1411**

**Source:** 1997 AACS.

**R 325.1412**

**Source:** 1997 AACS.

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**DEPARTMENT OF COMMUNITY HEALTH  
OFFICE OF THE DIRECTOR  
PRESCHOOL VISION TESTS**

**R 325.1481**  
**Source:** 1997 AACS.

**DISEASE CONTROL IN SCHOOLS**

**R 325.1491**  
**Source:** 1997 AACS.

**DEPARTMENT OF AGRICULTURE  
AGRICULTURAL LABOR CAMPS**

**R 325.1501**  
**Source:** 1997 AACS.

**R 325.1502**  
**Source:** 1997 AACS.

**R 325.1503**  
**Source:** 1997 AACS.

**R 325.1504**  
**Source:** 1997 AACS.

**R 325.1505**  
**Source:** 1997 AACS.

**R 325.1506**  
**Source:** 1997 AACS.

**R 325.1507**  
**Source:** 1997 AACS.

**R 325.1508**  
**Source:** 1997 AACS.

**R 325.1509**  
**Source:** 1997 AACS.

**R 325.1510**  
**Source:** 1997 AACS.

**R 325.1511**  
**Source:** 1997 AACS.

**R 325.1512**  
**Source:** 1997 AACS.

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**R 325.1513**

**Source:** 1997 AACS.

**R 325.1514**

**Source:** 1997 AACS.

**R 325.1515**

**Source:** 1997 AACS.

**R 325.1531**

**Source:** 1997 AACS.

**R 325.1532**

**Source:** 1997 AACS.

**R 325.1533**

**Source:** 1997 AACS.

**R 325.1534**

**Source:** 1997 AACS.

**R 325.1535**

**Source:** 1997 AACS.

**R 325.1536**

**Source:** 1997 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION**

**MEDICAL WASTE PRODUCING FACILITIES**

**325.1541**

**Source:** 1998-2000 AACS.

**325.1542**

**Source:** 1998-2000 AACS.

**325.1543**

**Source:** 1998-2000 AACS.

**325.1544**

**Source:** 1998-2000 AACS.

**325.1545**

**Source:** 1998-2000 AACS.

**325.1546**

**Source:** 1998-2000 AACS.

**325.1547**

**Source:** 1998-2000 AACS.

**325.1548**

**Source:** 1998-2000 AACS.

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**325.1549**

**Source:** 1998-2000 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**DIVISION OF ENVIRONMENTAL HEALTH**  
**CAMPGROUNDS**

**R 325.1551**

**Source:** 1998-2000 AACS.

**R 325.1552**

**Source:** 1998-2000 AACS.

**R 325.1553**

**Source:** 1998-2000 AACS.

**R 325.1554**

**Source:** 1998-2000 AACS.

**R 325.1555**

**Source:** 1998-2000 AACS.

**R 325.1555a**

**Source:** 1998-2000 AACS.

**R 325.1555b**

**Source:** 1998-2000 AACS.

**R 325.1556**

**Source:** 1998-2000 AACS.

**R 325.1556a**

**Source:** 1998-2000 AACS.

**R 325.1556b**

**Source:** 1998-2000 AACS.

**R 325.1557**

**Source:** 1998-2000 AACS.

**R 325.1558**

**Source:** 1998-2000 AACS.

**R 325.1559**

**Source:** 1998-2000 AACS.

**R 325.1560**

**Source:** 1998-2000 AACS.

**R 325.1561**

**Source:** 1998-2000 AACS.

**R 325.1562**

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**Source:** 1998-2000 AACS.

**R 325.1563**

**Source:** 1998-2000 AACS.

**R 325.1564**

**Source:** 1998-2000 AACS.

**R 325.1566**

**Source:** 1998-2000 AACS.

**R 325.1568**

**Source:** 1998-2000 AACS.

**R 325.1569**

**Source:** 1987 AACS.

**R 325.1571**

**Source:** 1998-2000 AACS.

**R 325.1574**

**Source:** 1998-2000 AACS.

**R 325.1576**

**Source:** 1998-2000 AACS.

**R 325.1585**

**Source:** 1987 AACS.

**R 325.1586**

**Source:** 1998-2000 AACS.

**R 325.1599**

**Source:** 1998-2000 AACS.

**DIVISION OF WATER SUPPLY  
GROUNDWATER QUALITY CONTROL  
PART 1. WELL CONSTRUCTION CODE**

**R 325.1601**

**Source:** 1994 AACS.

**R 325.1601a**

**Source:** 1994 AACS.

**R 325.1602**

**Source:** 1994 AACS.

**R 325.1603**

**Source:** 1994 AACS.

**R 325.1603a**

**Source:** 1994 AACS.

**R 325.1604**



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**Source:** 1994 AACS.

**R 325.1605**

**Source:** 1994 AACS.

**R 325.1606**

**Source:** 1994 AACS.

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**Source:** 1994 AACS.

**R 325.1608**

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**R 325.1622**

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**R 325.1624**

**Source:** 1994 AACS.

**R 325.1625**

**Source:** 1994 AACS.

**R 325.1626**

**Source:** 1994 AACS.

**R 325.1627**

**Source:** 1994 AACS.

**R 325.1631**

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**R 325.1631a**

**Source:** 1994 AACS.

**R 325.1631b**

**Source:** 1994 AACS.

**R 325.1631c**

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**R 325.1631d**

**Source:** 1994 AACS.

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**R 325.1632**  
**Source:** 1994 AACs.

**R 325.1632a**  
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**R 325.1633**  
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**R 325.1633a**  
**Source:** 1994 AACs.

**R 325.1634**  
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**R 325.1637**  
**Source:** 1994 AACs.

**R 325.1637a**  
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**R 325.1638**  
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**R 325.1639**  
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**R 325.1640**  
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**R 325.1641**  
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**R 325.1642**  
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**R 325.1651**  
**Source:** 1994 AACs.

**R 325.1652**  
**Source:** 1997 AACs.

**R 325.1653**  
**Source:** 1994 AACs.

**R 325.1653a**  
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**R 325.1654**  
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**R 325.1656a**  
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**Source:** 1994 AACS.

**R 325.1657a**  
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**R 325.1661**  
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**R 325.1662**  
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**R 325.1663**  
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**R 325.1667**  
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**R 325.1674a**  
**Source:** 1994 AACS.

**R 325.1675**  
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**R 325.1676**  
**Source:** 1994 AACS.

**PART 2. DRILLING CONTRACTORS' AND PUMP INSTALLERS' REGISTRATION**

**R 325.1701**  
**Source:** 1994 AACS.

**R 325.1701a**  
**Source:** 1994 AACS.

**R 325.1702**  
**Source:** 1994 AACS.

**R 325.1703**  
**Source:** 1994 AACS.

**R 325.1704**  
**Source:** 1994 AACS.

**R 325.1705**  
**Source:** 1997 AACS.

**R 325.1705a**  
**Source:** 1994 AACS.

**R 325.1706**  
**Source:** 1994 AACS.

**R 325.1707**  
**Source:** 1994 AACS.

**R 325.1707a**  
**Source:** 1994 AACS.

**R 325.1708**  
**Source:** 1994 AACS.

**R 325.1709**  
**Source:** 1994 AACS.

**R 325.1711**  
**Source:** 1994 AACS.

**PART 3. DRILLING MACHINES AND SERVICE VEHICLES**

**R 325.1721**  
**Source:** 1994 AACS.

**R 325.1722**  
**Source:** 1994 AACS.

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**NURSING HOMES**

**R 325.1901**  
**Source:** 1997 AACCS.

**R 325.1909**  
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**R 325.1911**  
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**R 325.1912**  
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**R 325.1915**  
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**R 325.1936**  
**Source:** 1997 AACCS.

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**R 325.1937**  
**Source:** 1997 AACS.

**R 325.1938**  
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**R 325.1939**  
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**R 325.1963**  
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**Source:** 1997 AACS.

**R 325.1965**

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**Source:** 1997 AACS.

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**Source:** 1997 AACS.

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**Source:** 1997 AACS.

**R 325.1985**

**Source:** 1997 AACS.

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**Source:** 1997 AACS.

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**Source:** 1997 AACS.

**R 325.1993**

**Source:** 1997 AACS.

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**R 325.1995**

**Source:** 1997 AACs.

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**Source:** 1997 AACs.

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**R 325.2002**

**Source:** 1997 AACs.

**R 325.2004**

**Source:** 1997 AACs.

**R 325.2005**

**Source:** 1997 AACs.

**R 325.2007**

**Source:** 1997 AACs.

**R 325.2011**

**Source:** 1997 AACs.

**R 325.2012**

**Source:** 1997 AACs.

**R 325.2013**

**Source:** 1997 AACs.

**R 325.2014**

**Source:** 1997 AACs.

**R 325.2015**

**Source:** 1997 AACs.

**R 325.2016**

**Source:** 1997 AACs.

**R 325.2017**

**Source:** 1997 AACs.

**R 325.2018**

**Source:** 1997 AACs.

**R 325.2019**

**Source:** 1997 AACs.

**R 325.2020**

**Source:** 1997 AACs.



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**R 325.2021**  
**Source:** 1997 AACs.

**R 325.2022**  
**Source:** 1997 AACs.

**R 325.2023**  
**Source:** 1997 AACs.

**R 325.2024**  
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**R 325.2025**  
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**R 325.2026**  
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**R 325.2027**  
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**R 325.2028**  
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**R 325.2029**  
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**R 325.2031**  
**Source:** 1997 AACs.

**R 325.2032**  
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**R 325.2033**  
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**R 325.2035**  
**Source:** 1997 AACs.

**R 325.2036**  
**Source:** 1997 AACs.

**R 325.2037**  
**Source:** 1997 AACs.

**R 325.2038**  
**Source:** 1997 AACs.

**R 325.2041**

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**Source:** 1997 AACs.

**R 325.2051**

**Source:** 1997 AACs.

**R 325.2052**

**Source:** 1997 AACs.

**R 325.2053**

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**R 325.2055**

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**R 325.2059**

**Source:** 1997 AACs.

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**Source:** 1997 AACs.

**R 325.2062**

**Source:** 1997 AACs.

**R 325.2064**

**Source:** 1997 AACs.

**R 325.2065**

**Source:** 1997 AACs.

**R 325.2066**

**Source:** 1997 AACs.

**R 325.2068**

**Source:** 1997 AACs.

**R 325.2071**

**Source:** 1997 AACs.

**R 325.2072**

**Source:** 1997 AACs.

**R 325.2073**

**Source:** 1997 AACs.

**R 325.2074**

**Source:** 1997 AACs.

**R 325.2075**

**Source:** 1997 AACs.

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**R 325.2081**

**Source:** 1997 AACS.

**R 325.2082**

**Source:** 1997 AACS.

**R 325.2083**

**Source:** 1997 AACS.

**R 325.2084**

**Source:** 1997 AACS.

**R 325.2085**

**Source:** 1997 AACS.

**R 325.2091**

**Source:** 1997 AACS.

**R 325.2092**

**Source:** 1997 AACS.

**R 325.2093**

**Source:** 1997 AACS.

**R 325.2094**

**Source:** 1997 AACS.

**R 325.2095**

**Source:** 1997 AACS.

**R 325.2096**

**Source:** 1997 AACS.

**R 325.2097**

**Source:** 1997 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH  
PUBLIC BATHING BEACHES**

**R 325.2101**

**Source:** 1995 AACS.

**R 325.2102**

**Source:** 1995 AACS.

**R 325.2103**

**Source:** 1995 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

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**ENVIRONMENTAL AND OCCUPATIONAL HEALTH SERVICES ADMINISTRATION**

**PUBLIC SWIMMING POOLS**

**PART 1. GENERAL PROVISIONS**

**R 325.2111 Definitions.**

Rule 1. As used in these rules:

- (a) "Code" means 1978 PA 368, MCL 333.1101 et seq.
- (b) "Department" means the department of environmental quality.
- (c) "Diving pool" means a swimming pool that is deep enough throughout for diving as required by R 325.2133.
- (d) "Modification" means any alteration to a swimming pool that results in a change from previously approved construction.
- (e) "Poolside slide" means a short slide structure which is more than 4 feet in height, which is not regulated under R 408.814, which is located near the edge of a swimming pool, and which is used by swimmers to slide by gravity into a pool.
- (f) "River ride pool" means a swimming pool that is designed to convey means a swimming pool that is designed to convey swimmers with or without flotation devices around a closed loop channel using an artificially created current.
- (g) "Spa pool" means a swimming pool which is designed for use by more than 2 people at one time and which is not necessarily intended for swimming. A spa pool will typically have seating, agitation of the water, and water temperatures different than what is normal in pools for swimming.
- (h) "Special purpose pool" means a swimming pool that has design features which are not specifically covered in Part 2 of these rules.
- (i) "Swimming pool" or "pool" means a public swimming pool as defined in section 12521 of the code. The following are examples of swimming pools:
  - (i) Cold plunge pools.
  - (ii) Diving pools.
  - (iii) Hot tubs.
  - (iv) Scuba diving pools.
  - (v) Spa pools.
  - (vi) Training tanks wading pools.
  - (vii) Water slide pools.
  - (viii) Wave pools.
  - (ix) Other special purpose pools.
- (j) "Wading pool" means a swimming pool that is shallow enough throughout for wading.
- (k) "Water slide pool" means a swimming pool that includes 1 or more flumes in which bathers are transported by moving water to a landing area and which is used only to exit the water slide.
- (l) "Wave pool" means a swimming pool that is equipped to generate waves.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2113 Plans and specifications; construction permit application.**

Rule 3. (1) Plans and specifications submitted for a construction permit for a new swimming pool or modification of an existing swimming pool shall meet all of the following requirements:

- (a) Be prepared by, and bear the seal of, a professional engineer or architect licensed in this state if a new swimming pool and related facilities or a modification costs \$15,000.00 or more. A person shall obtain a construction permit under section 12525 of the code regardless of the project cost.
  - (b) Be submitted in triplicate to the department and be accompanied by completed construction permit application forms as prescribed and provided by the department.
  - (c) Be accompanied by the fee prescribed by the code payable to: "State of Michigan."
- (2) Plans and specifications submitted for a construction permit for a new swimming pool shall meet both of

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the following requirements:

(a) Include a plot plan showing all of the following:

- (i) Plan north or true north.
- (ii) Property boundaries and location description.
- (iii) Adjacent streets.
- (iv) Pertinent buildings on the site.
- (v) Pertinent site grades, including floodplain contour, if applicable.
- (vi) Utility lines.

(b) Show, in detail, the swimming pool and related facilities areas, including all of the following:

- (i) The swimming pool enclosure and enclosure entrances.
- (ii) The enclosure design, door or gate designs, and entrance hardware.
- (iii) The walkway and deck materials, finishes, and slopes.
- (iv) The swimming pool tank and related facilities.
- (v) The swimming pool water treatment and recirculation equipment and piping.
- (vi) Dressing rooms, locker rooms, shower rooms and toilet rooms.
- (vii) Storage rooms.
- (viii) Offices.

(ix) Mechanical equipment rooms.

(x) The source of, and basis of design for, the water supply.

(xi) Wastewater disposal system and the basis of design, including stormwater discharges.

(3) Plans and specifications submitted for a construction permit for modification of an existing swimming pool shall show both the proposed modifications and the pertinent existing facilities.

(4) If plans and specifications are submitted to the department, then an applicant shall concurrently submit 1 set of plans and specifications to the appropriate local health department.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2113a Compliance with state or local code or requirement.**

Rule 3a. Compliance with these rules does not relieve a pool owner from complying with a state or local code or requirement that is not in conflict with these rules.

History: 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2114 Design and construction variances.**

Rule 4. (1) The department may grant a variance from part 2 of these rules if the department determines that the variance will not affect the safe and healthful operation of the swimming pool and that strict compliance will cause unusual practical difficulties and hardships or will conflict with a special purpose intended for the pool.

(2) A person who files a request for a variance from these rules shall do so in writing. The request shall state the specific reasons for the variance and shall include adequate proof that an item, material, feature, or method will perform the intended function so as to produce a safe and healthful swimming pool.

(3) The department shall review the variance request and take either of the following actions:

- (a) Grant the variance in writing, including any specific terms, conditions, and limitations.
- (b) Deny the variance in writing and state the specific reasons for denial.

(4) A swimming pool which is not in compliance with the specific provisions of these rules on their effective date, but which is in compliance with the rules in effect when the pool was installed and which is in good repair, is exempt from the provisions of these rules that require major structural or mechanical changes until pertinent modifications are made. If a swimming pool is modified, the pool owner shall bring the portion modified into compliance with applicable provisions of these rules, unless a variance is granted by the department.

(5) This rule does not preclude the department from requiring changes where necessary to correct a threat to public health or an unsafe condition associated with a swimming pool. The pool owner shall establish a schedule of compliance for any required changes that is acceptable to the department or local health department.

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History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2115 Operation permit application.**

Rule 5. (1) An applicant for an operation permit shall submit an application to the department on the forms prescribed and provided by the department.

(2) An applicant shall submit the fee prescribed by section 12527a of the code together with the application. An applicant shall make payment payable to: "State of Michigan."

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2116 Violation of code or rules; notice of noncompliance; stop-work order.**

Rule 6. (1) If a representative of the department or of a local health department inspects a swimming pool and finds a violation of the code or these rules, then the department or local health department representative shall issue a written notice of noncompliance to the owner or the owner's representative that specifies the corrective action to be taken and shall allow an appropriate time period for correction.

(2) If construction is being performed contrary to the code or these rules, then the department or local health department representative may issue a written stop-work order. If a stop-work order is issued, the construction shall stop, except for work that is necessary to correct an unsafe condition.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2117 Closing of swimming pools; reasons.**

Rule 7. (1) A representative of the department or of a local health department may order the owner or operator of a swimming pool to close the pool and prohibit any person from using it, until correction, for any of the following reasons:

(a) A condition of the swimming pool equipment, structure, area, or enclosure that jeopardizes the health or safety of the persons using or operating the pool.

(b) The lack of properly functioning equipment or proper material for recirculating, treating, or testing the swimming pool water.

(c) The lack of supervisory personnel, as required by R 325.2197, or lifeguards, as required by R 325.2198.

(d) The presence of a pollutant or of a hazardous object or substance in the swimming pool.

(e) Failure to meet a water quality standard prescribed by R 325.2194 or R 325.2195.

(f) Failure to operate and maintain the swimming pool as prescribed by R 325.2191 to R 325.2199.

(g) Failure to comply with the terms and provisions of an order or schedule of compliance.

**R 325.2118 Closing of swimming pools; procedure.**

Rule 8. (1) The department or local health department shall issue an order under R 325.2117 in writing and shall ensure that the order complies with all of the following provisions:

(a) States that the pool shall close immediately.

(b) Specifies the corrective action necessary to bring the pool back into compliance.

(c) Is served upon the owner, operator, owner's representative, or person in charge of the swimming pool. The person on whom the order is served shall close the swimming pool immediately and shall prohibit any person from using it. The order may require the owner or operator or owner's representative to post 1 or more signs to inform any person that the swimming pool is closed until further notice.

(2) After the specified corrective action has been taken, the owner or operator or owner's representative shall notify the agency issuing the closing order.

(3) If upon reinspection the corrective action has not been taken, then the owner or operator shall keep the swimming pool closed and out of use until corrective action has been taken and the swimming pool has been reinspected and approved.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

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**R 325.2118a Reopening inspections.**

Rule 8a. (1) Before the reopening of a swimming pool for seasonal use or for use after the expiration of an operation permit, an owner or operator shall prepare the swimming pool facilities for use according to all of the following provisions:

- (a) All violations of the code or these rules shall be corrected.
- (b) The swimming pool water shall meet the water quality standards prescribed by R 325.2194.
- (c) The owner or operator shall notify the department or local health department when the swimming pool is ready for use.
- (2) A representative of the department or local health department may inspect the facilities before authorizing seasonal use of a swimming pool.
- (3) A representative of the department or local health department shall inspect the facilities before authorizing the use of a pool after the expiration of an operation permit.
- (4) If a reopening inspection reveals a condition listed in R 325.2117, then a representative of the department or a local health department may order the owner or operator of the swimming pool to prohibit any individual from using the pool until adequate corrections are made.

History: 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Feb. 6, 2001.

**R 325.2118b Swimming pools not in use.**

Rule 8b. The owner of a swimming pool which is not in use or for which an operation permit is not in effect shall maintain the pool in a condition that prevents its creating a hazard to health or safety.

History: 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Feb. 6, 2001.

**PART 2. CONSTRUCTION**

**R 325.2121 Sites.**

Rule 21. The site for a swimming pool shall meet all of the following requirements:

- (a) Have pertinent public utilities available or have an on-site water supply and on-site sewage disposal system approved by the department or local health department.
- (b) Not be detrimental to safe access to the swimming pool or to the safe and healthful use of the swimming pool.
- (c) Be accessible by vehicles.
- (d) Have drainage that is adequate to prevent flooding, damage, and a nuisance.
- (e) Not be detrimental to the proper operation and maintenance of the swimming pool.
- (f) Avoid pollution of the swimming pool.
- (g) Allow for the swimming pool to be safely emptied when necessary.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2122 Construction shapes, materials, surfaces, and loads.**

Rule 22. (1) A swimming pool owner shall ensure that the pool and appurtenances are shaped and arranged so that the maintenance of safe and sanitary conditions and the recirculation of the water are not impaired. Nothing shall extend into or above a swimming pool tank so as to create a safety hazard.

(2) A swimming pool owner shall ensure that a pool and appurtenances are constructed of materials that are inert, nontoxic to humans, impervious, durable, and strong enough to withstand structural stresses.

(3) A pool owner shall ensure that a finished surface of a swimming pool wall or floor does not have sharp edges, open cracks, or open joints and is slip-resistant, easily cleanable, nonabsorbent, and light-colored, except that a dark marking may be inserted against a light background.

(4) A swimming pool owner shall ensure that a pool tank is designed and constructed to withstand all anticipated loadings for both full and empty conditions. If a swimming pool tank is subject to external hydrostatic pressure, then the pool owner shall provide means to relieve the pressure.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

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**R 325.2123 Walls, floors, ledges, and underwater seating.**

Rule 23. (1) Where the water depth is 6 feet or less, a swimming pool owner shall ensure that a swimming pool wall meets 1 of the following provisions:

- (a) Is vertical.
  - (b) Slopes uniformly down to the point of curvature at not more than 1 horizontal in 5 vertical.
  - (c) Falls entirely within a plane sloped 1 horizontal in 5 vertical from the waterline down to the point of curvature where the wall cannot slope uniformly due to the necessary structural support of the upper wall.
- (2) Where the water depth is more than 6 feet, a swimming pool owner shall ensure that a pool wall meets 1 of the following requirements:

- (a) Is vertical.
- (b) Is vertical to a water depth of not less than 64 inches and then curves to the floor with a radius of not more than the difference between the floor depth at that point and the depth at the point of curvature.
- (c) Is vertical to a water depth of not less than 64 inches and then slopes down to the floor at 1 horizontal in 2 vertical or steeper.
- (d) Is vertical to a water depth of not less than 68 inches and then slopes down to the floor at 1 vertical in 2 horizontal or less steep for a horizontal distance of not more than 6 feet from the pool wall. Add 1 inch to the vertical wall water depth for each additional 2 inches of total water depth deeper than 6 feet.
- (e) Slopes uniformly down to a water depth of not less than 6 feet at not more than 1 horizontal in 5 vertical.
- (f) Falls entirely within a plane sloped 1 horizontal in 5 vertical from the waterline down to a water depth of not less than 6 feet where the wall cannot slope uniformly due to the necessary structural support of the upper wall.

(3) A swimming pool owner shall ensure that the junction between a pool wall and the floor is coved with a radius according to the following requirements, as applicable:

- (a) Not less than  $\frac{1}{2}$  of an inch.
- (b) Not more than 8 inches where the water depth is 6 feet or less.
- (c) Not more than 75 inches where the water depth is more than 6 feet.

(4) A swimming pool owner shall ensure that the entire swimming pool floor slopes down toward the main outlets according to the following requirements:

- (a) Where the water depth is 4 feet or less, the swimming pool floor shall be sloped uniformly at not more than 1 vertical in 12 horizontal, where the water depth is 4 feet or less, except on the deeper side of a change of slope.
- (b) Where the water depth is between 4 feet and 6 feet, the floor shall be sloped uniformly at not more than 1 vertical in 3 horizontal on the deeper side of a change of slope to a water depth of not more than 6 feet.
- (5) Where the water depth is less than 6 feet, a swimming pool owner shall plainly mark the pool bottom at a change of floor slope with a color contrasting from the background color to allow the change of slope to be clearly visible. A swimming pool owner shall also extend the marking vertically up each sidewall at the change of slope.

(6) The department may approve other floor slopes for special purpose pools, for scuba diving pools, or for the transition from the side of a diving area to a more shallow area.

(7) A swimming pool owner shall ensure that a ledge does not protrude into a pool unless it is essential to support an upper wall. If a ledge is provided, then a swimming pool owner shall ensure that the ledge meets all of the following requirements:

- (a) Is not more than 4 inches in width.
- (b) Slopes downward from the wall.
- (c) Is designed to prevent its use as a walkway.
- (d) Is marked with a color contrasting from the background color to allow the ledge to be clearly visible.

(8) A swimming pool owner shall ensure that underwater seating at a swimming pool other than a spa pool meets all of the following requirements:

- (a) Is located where the water depth is 4 feet or less.
- (b) Is located in a recessed area that provides for the safety of swimmers.
- (c) The front edge of the seating is plainly marked in a color contrasting from the background color to allow the seat to be clearly visible from in the pool and on the walkway near the seat.
- (d) The walkway adjacent to the underwater seating is marked in a manner that warns of the location of the



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submerged seat.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2124 Handholds.**

Rule 24. (1) A swimming pool owner shall ensure that a swimming pool, other than a spa pool, wading pool, or a water slide pool, has a continuous handhold that is not more than 6 inches above the water surface.

(2) A swimming pool owner shall ensure that a spa pool has handholds that are not more than 4 feet apart and not more than 6 inches above the water surface.

(3) A swimming pool owner shall ensure that a water slide pool has a continuous handhold, except at the flume entry into the pool.

(4) A swimming pool owner shall ensure that a handhold provides a positive, safe, and slip-resistant grip and allows persons using the swimming pool to easily hold onto the edge of the pool.

History: 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2125 Water supplies.**

Rule 25. (1) A swimming pool owner shall ensure that the water serving a swimming pool and all plumbing fixtures are obtained from a type I public water supply, if available. If a type I water supply is not available, then a swimming pool owner shall ensure that water is obtained from a supply that meets the requirements for type II public water supplies. The water supply types are classified in R 325.10502.

(2) A swimming pool owner shall ensure that the supply of water is adequate for service to all plumbing fixtures and for furnishing the swimming pool with not less than 1 gallon per minute per 1,500 gallons of the swimming pool volume. A swimming pool owner shall ensure that water at a temperature of not less than 90 degrees nor more than 110 degrees Fahrenheit is supplied to each required shower and lavatory.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2126 Water supply backflow.**

Rule 26. (1) A swimming pool owner shall ensure that a potable water supply system that serves a swimming pool and all plumbing fixtures is protected against backflow. A swimming pool owner shall ensure that potable water which is introduced into the swimming pool or recirculation system is supplied through permanent piping and either of the following:

(a) An acceptable air gap consisting of an unobstructed vertical distance through the atmosphere of not less than 2 diameters of the water supply pipe between the lowest free-flowing discharge of the water supply pipe and the overflow level of the receiving pipe, tank, or vessel.

(b) An approved reduced pressure zone backflow preventer which is installed where it is readily accessible for inspection and maintenance, which is not subject to flooding, and which does not have a direct connection between the drain port and a wastewater system.

(2) A swimming pool owner shall ensure that a water supply fill spout is located so that it is not a safety hazard.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2127 Wastewater disposal systems.**

Rule 27. (1) A swimming pool owner shall ensure that a swimming pool has a wastewater disposal system that serves the entire swimming pool facility. A swimming pool owner shall ensure that the wastewater disposal system has sufficient capacity to prevent flooding during the swimming pool filter cleaning cycle and during draining of the swimming pool.

(2) A swimming pool owner shall ensure that wastewater from a swimming pool is discharged through permanent piping to a public sewerage system if it is available.

(3) A swimming pool owner shall ensure that the disposal of wastewater from a swimming pool does not create a threat to public health or safety, a nuisance, or unlawful pollution of the waters of the state. A

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swimming pool owner maybe required to obtain a permit for the disposal of wastewater under 1994 PA 451, MCL 324.101 et seq.

(4) A swimming pool owner shall ensure that a swimming pool and its recirculation system is protected against backflow from a wastewater disposal system. A swimming pool owner shall ensure that a pipe from the swimming pool or its recirculation system to a sewer discharges through an air gap of not less than 2 pipe diameters, unless the department approves the elimination of the air gap.

(5) A swimming pool owner shall ensure that the wastewater disposal system enables emptying of the swimming pool.

(6) A swimming pool owner shall ensure that the sump for receiving pool wastewater is properly trapped.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2128 Enclosures.**

Rule 28. (1) A swimming pool owner shall completely enclose a swimming pool facility by a wall, fence, or other protective enclosure. A swimming pool owner shall ensure that the entire enclosure, including doors and gates, is not less than 4 feet high as measured on the outside, does not provide ready footing for climbing, and is designed to prevent passage through or under the enclosure. A swimming pool owner shall ensure that a sliding-type door is not installed as part of the protective enclosure.

(2) A swimming pool owner shall ensure that the enclosure specified in subrule (1) of this rule has at least 1 entrance. A swimming pool owner shall ensure that each entrance has a door or gate equipped with a self-closer, a latch, and a lock. A swimming pool owner shall ensure that a sliding-type door is not installed as an entrance. A swimming pool owner shall ensure that an entrance for bathers leads to the shallowest area of the swimming pool.

(3) A swimming pool owner may enclose 2 or more swimming pools within a single enclosure, except that an owner shall enclose a wading pool separately.

(4) A swimming pool owner shall provide a barrier between a permanent spectator area and an area used by bathers.

(5) A swimming pool owner shall ensure that a balcony within 10 feet of or overhanging any portion of the swimming pool water surface is completely enclosed or is designed to prevent diving into the swimming pool.

(6) A swimming pool owner shall ensure that an active recreation area which is adjacent to a swimming pool and which is provided for the use of persons within the swimming pool enclosure is separated by a barrier.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2129 Walkways and decks; "walkway" and "deck" defined.**

Rule 29. (1) "Walkway" means the area around and immediately adjacent to the edge of a swimming pool. A swimming pool owner shall provide a continuous, unobstructed walkway as follows:

(a) It shall be not less than 4 feet wide and extend out to any deck drainage if located beyond 4 feet from the edge of the pool.

(b) It shall extend completely around a swimming pool other than a spa pool, water slide pool, or river ride pool.

(c) It shall be not more than 9 inches above the water surface, except at a water slide pool or a wave pool.

(d) It shall be not less than 4 feet wide by not less than 10 feet long at a spa pool and be located at a means of egress from the spa pool.

(e) It shall be not less than 4 feet wide at the side and behind a piece of diving or permanent deck equipment.

(f) It shall be provided on at least 1 side of a river ride pool.

(g) It shall be continuous for a water slide pool, except for the flume entry into the pool.

(h) It shall be not less than 10 feet wide at the main means of egress from a water slide pool.

(2) A swimming pool owner shall ensure that a walkway between 2 swimming pools is not less than 6 feet wide. A swimming pool owner shall ensure that a common wall between a swimming pool and a spa pool is not more than 18 inches thick, not more than 12 feet long in any 1 direction, not more than 24 feet long in total, and designed to prevent a person from walking on the wall.

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(3) "Deck" means the remaining area from the edge of the swimming pool walkway to the swimming pool enclosure.

(4) A swimming pool owner shall effectively seal a junction between a walkway or paved deck and a wall to allow for easy cleaning.

(5) A swimming pool owner shall effectively seal a joint between the swimming pool coping and the walkway with a flexible waterproof sealant.

(6) A swimming pool owner shall equip an opening in the walkway with a locking-type cover that is flush with the deck or walkway surface.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2129a Walkway and deck materials; drainage.**

Rule 29a. (1) A swimming pool owner shall pave the entire walkway around a swimming pool.

(2) A swimming pool owner shall ensure that the walkway surface materials are durable, slip-resistant, easily cleanable, and nonabsorbent. Acceptable materials include any of the following:

(a) Concrete.

(b) Ceramic tile.

(c) Quarry tile.

(d) Other paving materials acceptable to the department.

(3) A swimming pool owner shall ensure that the remaining deck area is constructed and maintained to prevent surface drainage, dirt, and other harmful material from being carried into the pool. Acceptable deck materials include any of the following:

(a) Materials specified in subrule (2) of this rule.

(b) Wood.

(c) Grass.

(d) Shrubbery and other landscaping.

(e) Other materials acceptable to the department.

(4) A swimming pool owner shall ensure that the walkway and deck are effectively drained to prevent the accumulation of standing water.

(5) A swimming pool owner shall ensure that a walkway slopes away from the swimming pool for not less than 4 feet.

(6) A swimming pool owner shall ensure that a coping or other means is provided to prevent water flow from a walkway into the swimming pool.

(7) A swimming pool owner shall ensure that a deck drain discharges to waste only.

(8) A swimming pool owner shall ensure that roof drainage is not routed onto a swimming pool walkway or deck.

History: 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2131 Drinking fountains.**

Rule 31. (1) A swimming pool owner shall provide a drinking fountain at a swimming pool.

(2) A swimming pool owner shall ensure that a drinking fountain is an angle jet-type fountain and is located where it is readily accessible to the bathers and is not a safety hazard.

(3) A swimming pool owner shall ensure that wastewater from a drinking fountain is routed to waste in accordance with R 408.30701 et seq.

(4) A swimming pool owner shall ensure that a drinking fountain is not located in a toilet area or shower area.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2132 Water depths; depth markings; lifelines.**

Rule 32. (1) A swimming pool owner shall ensure that the following maximum water depths are complied with:

(a) Not more than 5.25 feet in a swimming pool which is smaller than 800 square feet in water surface area

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and which has a shallow area for walking or standing.

(b) Not more than 1.5 feet in a wading pool.

(c) Not more than 4 feet in a spa pool.

(2) A swimming pool owner shall plainly mark the depth of water in a swimming pool on the walkway next to the swimming pool.

(3) A swimming pool owner shall provide depth markers as necessary to indicate the depth of water as follows:

(a) At each side and at each end of the pool.

(b) At the maximum and the minimum depths.

(c) At a change in the floor slope between shallow and deeper areas.

(d) At other critical points.

(e) At intermediate points not more than 25 feet apart measured peripherally, except at a river ride pool.

(f) At each means of egress at a river ride pool.

(4) A swimming pool owner shall ensure that a depth marker is in compliance with all of the following requirements:

(a) Has legible numerals.

(b) Is not less than 4 inches high.

(c) Is a color that contrasts with the background.

(d) Indicates the units of measure.

(e) Indicates the water depth from the minimum operating water level to the bottom of the pool at that point.

(5) A swimming pool owner shall place the words "no diving" between the depth markers on the walkway where the water depth is less than 5 feet at a swimming pool. A swimming pool owner shall ensure that the words meet the requirements of subrule (4) of this rule.

(6) A swimming pool owner may place "no diving" symbols that are not less than 4 inches high on the walkway in place of the words "no diving" required by subrule (5) of this rule.

(7) A swimming pool owner is not required to place depth markers at the zero depth end of a pool.

(8) A swimming pool owner is not required to place "no diving" markers at a spa pool, wading pool, scuba diving pool, or at the zero depth end of a pool.

(9) A swimming pool owner shall place a sign in a scuba diving pool enclosure which states that the pool is for scuba diving only.

(10) A swimming pool owner shall provide a lifeline at a swimming pool, other than a water slide pool or a wave pool, at a change in floor slope where the water depth is less than 5 feet or at the 5-foot depth if the slope does not change.

(11) A swimming pool owner shall ensure that the lifeline has floats and anchors in both sidewalls near the water level.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2133 Diving areas and facilities; "plummet" defined.**

Rule 33. (1) A swimming pool owner shall not install a diving facility unless the department approves in writing before the installation.

(2) A swimming pool owner shall ensure that a diving area conforms to table 1 and figure 1 of this rule.

(3) Table 1 and figure 1 read as follows:

Table 1 Diving Areas

Letters below refer to Figure 1	Board height in meters	0.5 Meter	1.0 Meter	3.0 Meters
	Board height (feet)	1'8"	3'4"	9'11"
	Board length (feet)	10'0"	16'0"	16'0"

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		Board width (feet)	1'8"	1'8"	1'8"
		Minimum dimensions in feet			
A	Distance from plummet back to pool wall		2'0"	5'0"	6'0"
B	Distance from plummet to pool wall at side		8'3"	8'3"	11'6"
C	Distance from plummet to adjacent plummet		7'1"	7'1"	8'3"
D	Distance from plummet to pool wall ahead		26'0"	29'7"	33'8"
E	Height from board to ceiling at plummet and distances F and G		16'0"	16'0"	16'0"
F	Clear overhead distance behind and each side of plummet		8'0"	8'0"	8'0"
G	Clear overhead distance ahead of plummet		16'0"	16'0"	16'0"
H	Depth of water at plummet		8'6"	11'0"	12'0"
J	Distance ahead of plummet to depth K		12'0"	16'5"	19'9"
K	Depth at distance J ahead of plummet		8'3"	10'9"	11'9"
L	Distance at each side of plummet to depth M		8'0"	5'0"	6'7"
M	Depth at distance L on each side of plummet		8'3"	10'9"	11'9"
N	Maximum slope to reduce height E		30 degrees	30 degrees	30 degrees
P	Maximum floor slope to reduce depth ahead of K, to the sides of M, or back to pool wall behind H		1:3	1:2	1:2

(4) "Plummet" means a vertical line which passes through the end of, and which is at the center line of, a diving board or diving platform.

(5) A swimming pool owner shall install diving equipment in compliance with this rule and the equipment manufacturer's recommendations.

(6) A swimming pool owner shall ensure that a diving board, platform, and appurtenances meet all of the following requirements:

(a) Be constructed to ensure stability and safely carry the maximum anticipated loads.

(b) Be constructed of corrosion-resistant, easily cleanable, nonabsorbent, and slip-resistant materials.

(c) Have handholds on both sides of the ladder or stairway to a diving board or diving platform.

(d) For a diving stand or platform 1.0 meter or higher above the water, have guard railings on both sides of the diving board which extend to a position above the edge of the water and which are equipped with intermediate rails. A diving stand or platform used exclusively for competitive purposes is exempt from this subdivision.

(7) A swimming pool owner shall consider the safety of swimmers and divers in the location and orientation of diving facilities. A swimming pool owner shall locate all diving boards and diving platforms at a pool on the same wall.

(8) For pools that have diving facilities which were constructed before the effective date of this rule and which do not comply with this rule, the department may approve the diving facilities for competitive

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purposes. For competitive purposes, a swimming pool owner shall ensure that the pool diving depths and facilities meet the requirements in effect on March 24, 1971 and shall operate the facilities in accordance with R 325.2198.

(9) If a pool is not in compliance with the requirements of this rule, and if the department has issued a correction order to remedy an unsafe condition under R 325.2114, then a swimming pool owner shall remove a diving facility or bring it into compliance with this rule.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2134 Ladders, stairways, and ramps.**

Rule 34. (1) A swimming pool owner shall equip a swimming pool with ladders, stairways, or similar means of egress in compliance with all of the following provisions:

(a) Have at least 1 means of egress at each end of a pool, other than a wading pool, water slide pool, or a spa pool, that is less than 30 feet wide.

(b) Have not less than 2 means of egress located at opposite sides and at each end of a pool, other than a wading pool or a water slide pool, that is 30 or more feet wide.

(c) Have at least 1 means of egress for a water slide pool or a spa pool.

(d) Have a means of egress consisting of a ladder, stairway, or ramp for a pool other than a water slide pool or a spa pool.

(e) Have a means of egress consisting of a stairway or ramp for a water slide pool or a spa pool.

(f) Have at least 1 ladder for each diving board in a diving area.

(2) A swimming pool owner shall ensure that the distance from any point in a swimming pool to a means of egress is not more than 50 feet, except that a wave pool may have more than 50 feet to a means of egress where the water depth is less than 3.5 feet.

(3) A swimming pool owner shall ensure that a swimming pool ladder is corrosion-resistant and sturdy and has slip-resistant treads, side rails extending over the deck, and not more than 6 inches of clearance to the swimming pool wall. A swimming pool owner shall ensure that a recessed ladder has stepholes which drain into the swimming pool and which are easily cleanable and has a grab rail at each side of the ladder.

(4) A swimming pool owner shall ensure that a stairway leading into a swimming pool is in compliance with all of the following provisions:

(a) Has slip-resistant treads.

(b) Has uniform size treads that are not less than 12 inches deep and uniform size risers that are not more than 10.5 inches high for a swimming pool other than a spa pool.

(c) Has uniform size treads that are not less than 11 inches deep and uniform size risers that are not more than 12 inches high for a spa pool.

(d) Has the front edge of each step marked in a color that contrasts with the background.

(e) Is located where the water depth is either not more than 4 feet or is in a diving area and is located where the stairway will not be a hazard to swimmers.

(f) Has 1 sturdy handrail per 12 feet of the stairway width or fraction of 12 feet or in accordance with other applicable codes and is reachable for the length of the stairway. The stairway may have the top tread wider and the top or bottom riser shorter than the others.

(5) A swimming pool owner shall ensure that a ramp leading into a swimming pool is in compliance with all of the following provisions:

(a) The slope is not steeper than 1 in 12 from the horizontal.

(b) Terminates where the water depth is 3.5 feet or less.

(c) Is located where the ramp will not be a hazard to swimmers.

(d) Is slip-resistant.

(e) Has a sturdy handrail along each side of the ramp which is reachable for the length of the ramp.

(6) A swimming pool owner shall ensure that a stairway or ramp for a water slide pool is wide enough to accommodate the expected usage and, preferably, as wide as the exit end of the pool.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

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**R 325.2135 Starting platforms.**

Rule 35. (1) After the effective date of this rule, if starting platforms are provided at a swimming pool, then a swimming pool owner shall ensure that the platforms are in compliance with the following water depth and platform height requirements, as applicable:

- (a) For water depths less than 79 inches, starting platforms shall not be installed.
- (b) For water depths 79 inches and deeper across all swimming lanes, the front edge of the starting platforms shall be not higher than 30 inches above the water surface.
- (2) A swimming pool owner shall ensure that a starting platform meets all of the following requirements:
  - (a) Is installed where the minimum water depth is maintained for a distance from 2 feet to not less than 19 feet out from the edge of the pool across all swimming lanes.
  - (b) Is installed with the front edge extending to the edge of the water.
  - (c) Is easily removable without tools when located at a water depth of less than 8.5 feet.
- (3) A swimming pool owner shall ensure that a starting platform that was installed before the effective date of this rule and has water depths less than 60 inches is brought into compliance with subrules (1) and (2) of this rule or is permanently removed.

History: 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2136 Water circulation.**

Rule 36. (1) A swimming pool owner shall equip a swimming pool for continuous, uniform circulation of treated water within the swimming pool tank and for continuous removal, treatment, and reuse of the water. (2) A swimming pool owner shall ensure that the water recirculation and treatment system is adequate for recirculating and treating the entire volume of water as follows:

- (a) In 6 hours or less for a swimming pool.
- (b) In 1 hour or less for a wading pool.
- (c) In 1 hour or less for a spa pool.
- (d) In 2 hours or less for a river ride pool.
- (e) In 1 hour or less for a water slide pool.
- (f) In 4 hours or less for a wave pool.
- (g) In less time than specified in subdivisions (a) to (f) of this subrule if necessary to meet the hydraulic design requirements for the surface skimmer system required by R 325.2144.
- (h) In less time than specified in subdivisions (a) to (f) of this subrule if necessary to remedy water quality, clarity, or other operational problems.
- (3) The swimming pool owner shall ensure that the entire volume of a special purpose pool is recirculated and treated at a rate acceptable to the department.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2137 Swimming pool water piping.**

Rule 37. (1) A swimming pool owner shall ensure that swimming pool water piping is all of the following:

- (a) Nontoxic material.
- (b) A potable water grade.
- (c) Durable.
- (d) Resistant to corrosion.
- (e) Rated to withstand operating pressures of not less than 160 pounds per square inch.
- (2) A swimming pool owner shall ensure that plastic pipe is equivalent to either of the following types of piping, as determined by the department:
  - (a) Piping certified for potable water by NSF International or other nationally recognized certifying agency.
  - (b) Schedule 40 polyvinyl chloride or heavier piping.
- (3) A swimming pool owner shall ensure that plastic piping is not used for the piping from 5 feet upstream to 5 feet downstream from a water heater, unless the heater manufacturer's written recommendations approve the use of shorter piping or a specific pipe product.
- (4) A swimming pool owner shall ensure that the piping is designed to carry the required quantities of water at velocities of not more than 5 feet per second in suction piping and 10 feet per second in pressure piping.

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unless greater velocities are warranted.

(5) A swimming pool owner shall ensure that the piping meets all of the following requirements:

- (a) Is protected against erosion, corrosion, mechanical damage, and other deterioration.
  - (b) Is provided with fittings necessary for disassembly of any part.
  - (c) Is arranged to allow ready, safe, and proper operation and maintenance of the swimming pool facilities.
- (6) A swimming pool owner shall mark exposed pool piping with labels and arrows showing the normal direction of water flow.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2138 Flow controls; rate-of-flow indicators.**

Rule 38. (1) A swimming pool owner shall provide a valve for regulating the rate of flow through a swimming pool in the recirculation pump discharge piping.

(2) A swimming pool owner shall provide a rate-of-flow indicator on the pump discharge piping before or after the filter.

(3) A swimming pool owner shall ensure that a rate-of-flow indicator meets all of the following requirements:

- (a) Is the proper size and design for the pipe and system on which it is installed.
- (b) Has a durable scale that is graduated in gallons per minute.
- (c) Is sized to operate as close as practical to the midrange of the indicator at the design recirculation flow rate.
- (d) Is installed where it is readily accessible for reading and maintenance.
- (e) Is installed with straight pipe upstream and downstream from the indicator to any fitting or restriction in accordance with the manufacturer's recommendations.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2141 Inlets.**

Rule 41. (1) A swimming pool owner shall ensure that a swimming pool water inlet system has inlets adequate in design, number, and location to ensure uniform distribution of treated water throughout the swimming pool.

(2) A swimming pool owner shall ensure that an inlet meets all of the following requirements:

- (a) Is equipped for flow rate adjustment.
- (b) Does not extend from the swimming pool wall or floor so as to create a hazard.
- (c) Is not less than 12 inches below the water level or is not less than 6 inches below the water level and designed to direct the flow downward.

(3) A swimming pool owner shall ensure that a pool has the following number of inlets:

- (a) Not less than 2 inlets.
- (b) Not less than 1 inlet per 20 lineal feet of swimming pool periphery, except at a river ride pool.
- (c) More inlets than required in subdivision (a) or (b) of this subrule if necessary for the uniform circulation of water.

(4) A swimming pool owner shall ensure that the location of inlets for a swimming pool other than a river ride pool or a water slide pool is as follows:

- (a) For a wall inlet system, inlets shall be spaced not more than 20 feet apart as measured along the swimming pool wall.
- (b) For a floor inlet system, inlets shall be uniformly spaced not more than 20 feet apart and there shall be an inlet not more than 15 feet from each wall.
- (c) Where water circulation might be impaired, there shall be at least 1 inlet located in each recessed stairwell, underwater seat, or other space.

(5) A river ride pool or water slide pool owner shall provide a pool with 1 or more inlets adequate in number and location to provide and maintain flow rates and water quality in accordance with R 325.2194.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.



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**R 325.2142 Main and other outlets.**

Rule 42. (1) A swimming pool owner shall ensure that a swimming pool has 2 or more main outlets for the recirculation system pump for continuous removal of water for treatment and for emptying the pool.

(2) A swimming pool owner shall ensure that the main outlets for the recirculation system pump meet all of the following requirements:

- (a) Are designed and located to ensure the complete draining of the pool.
  - (b) Are designed and located to prevent entrapment and to prevent the restriction of flow by the simultaneous covering of all outlets on the system by 1 person.
  - (c) Do not extend from the swimming pool floor or wall so as to create a hazard.
  - (d) Are covered with a grate which is not hazardous to bathers, which is secured in place, and which is removable only with tools.
  - (e) Have an open area for each grate large enough to assure water entrance velocities of not more than 2 feet per second, with as close as practical to equal flow through each outlet grate.
  - (f) Have the total open area for all main outlet grates large enough to assure water entrance velocities of not more than 1 foot per second.
  - (g) Are interconnected with unrestricted piping that does not contain valves.
- (3) If another pump or pumps are provided, then a swimming pool owner shall ensure that the same outlet system supplying water to the pumps complies with the requirements of subrules (2)(b), (c), (d), (e), (f), and (g) of this rule.
- (4) A swimming pool owner shall ensure that all outlet openings meet both of the following requirements:
- (a) Are not less than 3 feet nor more than 20 feet from another outlet as measured center to center.
  - (b) Are provided not more than 15 feet from a sidewall for a main outlet.
- (5) A swimming pool owner shall ensure that all outlet discharge piping is valved in the equipment room as close as practical to the pump suction.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2143 Overflow systems.**

Rule 43. (1) A swimming pool owner shall ensure that a swimming pool is equipped with an overflow system to remove floating material from the water surface. A swimming pool owner shall ensure that a swimming pool that is not more than 2,400 square feet in water surface area has either a perimeter overflow system or surface skimmers or that a swimming pool which is more than 2,400 square feet in water surface area has a perimeter overflow system.

(2) A swimming pool owner shall ensure that a perimeter overflow system meets all of the following requirements:

- (a) Extends completely around the swimming pool, except for a spa pool, river ride pool, water slide pool, a special purpose pool, or a location where the design and construction of the perimeter overflow system must change due to construction limitations.
- (b) Has the overflow lip as level as practical, plus or minus 1/8 inch.
- (c) Has a minimum opening of 6 inches or has a covering adequate to prevent entrapment of any part of the bather's body.
- (d) Permits ready inspection, cleaning, and repair.
- (e) Is designed for removal of the water at a rate of not less than 100% of the design flow rate.
- (f) Provides for discharging the water for treatment and reuse.
- (g) Provides a handhold for bathers.
- (h) Effectively removes floating materials from the water surface.

(3) A swimming pool owner shall ensure that a perimeter overflow system extends as follows:

- (a) Around a spa pool or a water slide pool in a manner acceptable to the department.
- (b) Around a river ride pool at major changes of direction acceptable to the department.
- (c) Around a special purpose pool in locations acceptable to the department where the shape of the pool may cause practical difficulties in the construction of a continuous perimeter overflow system.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

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**R 325.2143a Overflow system open tanks and surge capacity.**

Rule 43a. (1) A swimming pool owner shall equip a swimming pool equipped with a perimeter overflow system with an open tank for containing the free discharge of water from the perimeter overflow system for treatment and reuse.

(2) A swimming pool owner shall ensure that an open tank meets all of the following requirements:

(a) Has a capacity from the design operating level of the surge tank to the tank overflow elevation of not less than 2 minutes of flow from the filtration pump.

(b) Has an automatic means to supply potable water to the pool or to the open tank that is activated based on the water level in the pool or in the open tank.

(c) Has tank overflow piping that meets both of the following requirements:

(i) Is sufficiently lower than the perimeter overflow system lip to assure continuous flow at the design flow rate.

(ii) Is designed to prevent flooding of the equipment room or other areas in case of mechanical failure.

(d) Has a means to automatically regulate the main outlet system flow rate based on the variation of water level in the open tank or perimeter overflow system.

(e) Has a means to completely drain the open tank when necessary.

(3) A swimming pool owner shall ensure that a pool which has a perimeter overflow system has surge capacity of not less than 1 gallon per square foot of pool water surface area. A swimming pool owner shall ensure that total surge capacity is the sum of the open tank capacity and either of the following if capacity is available:

(a) Capacity in the perimeter overflow system.

(b) Capacity in the pool of not more than 50% of the required surge capacity if the perimeter overflow system is equipped with surge weirs.

History: 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2144 Surface skimmers and surge weirs.**

Rule 44. (1) A swimming pool owner shall ensure that a swimming pool, other than a spa pool, which is equipped with surface skimmers or a perimeter overflow system that has surge weirs has at least 1 surface skimmer or surge weir for every 500 square feet of water surface area or fraction of 500 square feet. A swimming pool owner shall provide additional surface skimmers or surge weirs if necessary for effective skimming or to meet the surface skimmer hydraulic design requirements.

(2) A swimming pool owner shall ensure that a spa pool has 1 surface skimmer for every 250 square feet of surface area or fraction of 250 square feet.

(3) A swimming pool owner shall not provide a spa pool, a river ride pool, or a wave pool equipped with a perimeter overflow system with surge weirs.

(4) A swimming pool owner shall ensure that a surface skimmer or surge weir is in compliance with both of the following provisions:

(a) Is designed to effectively remove floating material from the water surface.

(b) Is located to ensure proper skimming of the entire water surface with minimum interference and minimum short-circuiting.

(5) A swimming pool owner shall ensure that a surface skimmer meets all of the following requirements:

(a) Has an automatically adjustable weir.

(b) Has an easily removable and cleanable strainer basket.

(c) Has a flow rate control device.

(d) If an equalizer pipe is provided, the pipe has a device that will remain tightly closed under normal operating conditions.

(e) Is built into the swimming pool wall and does not create a safety hazard.

(6) A swimming pool owner shall ensure that a swimming pool recirculation system is designed for a flow of 37.5 gallons per minute per surface skimmer with 80% of the flow (30 gallons per minute) to be directed through the skimmer and 20% of the flow (7.5 gallons per minute) to be directed through the main drain.

(7) A swimming pool owner shall ensure that a surface skimmer piping system is equipped with a means to adjust the flow through each skimmer either in each skimmer or in the equipment room as close as practical

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to the pump suction to provide for uniform surface skimming and to allow balancing of flow between the skimmer system and the main outlet system.

(8) A swimming pool owner shall ensure that a surge weir for a perimeter overflow system meets all of the following requirements:

- (a) Is designed to effectively skim the water surface.
- (b) Is designed for a minimum flow rate of 50 gallons per minute and for 20 gallons per minute per lineal foot of weir.
- (c) Is designed to effectively close during periods of use when rim flow is necessary.
- (d) Is built into the perimeter overflow system and does not create a safety hazard.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2145 Recirculation pumps.**

Rule 45. (1) A swimming pool owner shall ensure that a recirculation system is equipped with a single pump that has a sufficient capacity for recirculating the swimming pool volume of water within the time period required in R 325.2136 and for providing flow adequate for cleaning the filters.

(2) A swimming pool owner shall ensure that the pump and motor meet all of the following requirements:

- (a) Are capable of continuous operation.
- (b) Are self-priming if the pump or suction piping is above the swimming pool water level.
- (c) Are manufactured of materials suitable for continuous exposure to water and normal concentrations of pool treatment chemicals.
- (d) Are securely mounted to prevent strain on the piping.
- (e) Are equipped with an emergency shutoff device.

(3) A swimming pool owner shall install a gauge to measure the pump discharge pressure.

(4) If the water is pumped from the swimming pool to the filters, a swimming pool owner shall provide a strainer on the suction side of the pump and shall ensure that the strainer meets all of the following requirements:

- (a) Is corrosion-resistant, readily removable, and easily cleanable.
- (b) Is equipped with valves to permit removal of the strainer basket without water flowing through the chamber.
- (c) Is provided with a spare strainer basket .

(5) A swimming pool owner shall not install a timer to control the operation of the recirculation pump.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2146 Water agitation and other pump systems.**

Rule 46. (1) If agitation of the water in a spa pool is provided or if other pump systems in a swimming pool are provided, then a pool owner shall ensure that the agitation or other water movement is accomplished with a pump separate from the water treatment and recirculation system pump.

(2) A pool owner shall ensure that an electrical switch, timer, or emergency shutoff device to operate the agitation system pump is not reachable from the pool.

(3) A swimming pool owner shall equip a wave pool with not less than 2 emergency wave shutoff devices and shall locate 1 device on each side of the pool at a fixed lifeguard station.

(4) If an air induction system is provided, a pool owner shall ensure that the system meets both of the following requirements:

- (a) Is designed to prevent water backup that could cause electrical shock hazards.
- (b) Is designed so the air intake source does not permit the introduction of toxic fumes or other contaminants.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2151 Filters.**

Rule 51. (1) A swimming pool owner shall ensure that a swimming pool water treatment system has 1 or

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more filters for clarifying the water. A swimming pool owner shall ensure that a filter meets all of the following requirements:

- (a) Is capable of producing acceptable water clarity.
  - (b) Enables easy removal of the material filtered out.
  - (c) Is convenient to operate and maintain.
  - (d) Is installed with adequate clearance and facilities for ready and safe inspection, operation, maintenance, disassembly, and repair.
- (2) A swimming pool owner shall ensure that a filter system shall have sufficient filtration area to meet the required flow rate without exceeding the established maximum filtration rate demonstrated to produce acceptable water clarity.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2152 Sand-type filters.**

Rule 52. (1) A swimming pool owner shall ensure that a sand-type filter system is designed to operate at a maximum filtration rate of 20 gallons per minute-per square foot of filter area and a backwash rate of 15 gallons per minute per square foot of filter area. The department may approve other flow rates based on test data or other performance data that demonstrate compliance with R 325.2151.

(2) A swimming pool owner shall ensure that the backwash water is discharged to waste and that a means for viewing backwash water clarity is provided.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2153 Diatomaceous earth-type filters.**

Rule 53. (1) A swimming pool owner shall ensure that a diatomaceous earth-type filter system meets all of the following requirements, as applicable:

- (a) Is designed to operate at a maximum rate of 1.5 gallons per minute per square foot of filter area.
  - (b) Is designed to operate at a maximum rate of 2 gallons per minute per square foot of filter area if body feed equipment is provided that is capable of applying 0.1 pound of diatomaceous earth per square foot of filter area per 24 hours.
  - (c) Is designed to discharge the precoat filter effluent to waste or to an open tank for recirculation through the filter and not to the swimming pool or through a closed recirculation system.
- (2) A swimming pool owner shall provide a means for viewing the precoat effluent clarity.
- (3) A swimming pool owner shall ensure that the filter allows the effective removal of the filter-aid and the filtered-out material from the septums and the filters to waste without disassembly of the filters.
- (4) A swimming pool owner shall ensure that a pressure diatomaceous earth-type filter system shall have a precoat pot.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2154 Filter accessories.**

Rule 54. (1) A swimming pool owner shall ensure that a filter system is equipped with valves and piping necessary to isolate the filters for maintenance and repair and to completely drain all parts of the filter system.

(2) A swimming pool owner shall ensure that a pressure-type filter system is equipped with a gauge to indicate the filter influent pressure and, if the filter system is lower than the swimming pool water surface, is equipped with a gauge to measure the filter effluent pressure.

(3) A swimming pool owner shall ensure that a pressure gauge meets all of the following requirements:

- (a) Is graduated in pounds per square inch (psi).
  - (b) Has an appropriate range of readings.
  - (c) Is a minimum of 2 inches in diameter.
  - (d) Is located so it can be read easily.
- (4) A swimming pool owner shall ensure that a pressure filter tank has a manual air release connected to the

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top of the tank, unless air can be expelled easily by another means.

(5) A swimming pool owner shall ensure that a vacuum-type filter system is equipped with a vacuum gauge in the piping between the filter and the recirculation pump.

(6) A swimming pool owner shall ensure that the vacuum gauge meets all of the following requirements:

(a) Is graduated in inches of mercury in 1-inch increments.

(b) Has an appropriate range of readings.

(c) Is a minimum of 2 inches in diameter.

(d) Is located so it can be read easily.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2155 Cartridge-type filters.**

Rule 55. (1) A swimming pool owner shall ensure that a cartridge-type filter system meets all of the following requirements:

(a) Is designed for a maximum flow rate of 3/8 of a gallon per minute per square foot of filter area.

(b) Is equipped with a means to drain the filter tank to prevent equipment room flooding.

(c) Is provided with a spare set of cartridges that is not less than 100% of the required filtration area.

(d) Is provided with a means, on the premises and acceptable to the department, for cleaning the cartridges according to the manufacturer's recommendations.

History: 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2156 Disinfectants and other chemicals.**

Rule 56. (1) A chemical manufacturer shall provide evidence to the department that a chemical or other additive for disinfecting or otherwise treating swimming pool water meets all of the following requirements:

(a) Does not create objectionable physiological effects to bathers.

(b) Does not impart toxic or other deleterious properties to bathers or to the water.

(c) Is compatible in the water with other chemicals and processes normally used in swimming pool water treatment.

(d) Is safely and simply handled and closely controlled in its usage.

(e) Is measured by readily applied poolside tests to determine its concentration, residual, or effectiveness.

(2) The department may authorize the use of a disinfectant if the owner applies the disinfectant in a concentration that is appropriate, practical, and safe under normal pool conditions and if the disinfectant has been demonstrated, to the department, to be as effective in disinfection as both of the following:

(a) A free available chlorine residual of 1.0 milligram per liter at a pH of 7.2.

(b) A solution that has an oxidation-reduction potential equivalent to 650 millivolts or more as measured with a silver-silver chloride electrode.

(3) A swimming pool owner shall apply the disinfectant at a suitable point in the recirculation system for effective disinfection of the recirculating water.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2157 Chemical feeders.**

Rule 57. (1) A swimming pool owner shall ensure that a swimming pool has a chemical feeder and auxiliary equipment for the safe, continuous, controlled application of a chemical for disinfection of the water and the production and maintenance of a suitable residual of the disinfectant.

(2) A swimming pool owner shall ensure that the chemical feeder meet all of the following requirements:

(a) Has sufficient capacity for achieving the required disinfectant residual.

(b) Is easily adjustable in output rate.

(c) Is capable of continuous operation.

(d) Is resistant to corrosion or clogging from the chemicals intended to be used in it.

(e) Is easy and safe to disassemble and reassemble for cleaning and maintenance.

(3) If a feeder for pH control is provided, then a swimming pool owner shall install the feeder in accordance with the manufacturer's recommendations in a manner acceptable to the department.

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(4) A swimming pool owner shall connect an electrically operated chemical feeder to an electrical outlet energized only when the filtration pump is operating.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2158 Liquid chlorine.**

Rule 58. A swimming pool owner shall not use liquid chlorine (liquefied elemental chlorine gas) at a swimming pool.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2159 Chemical test equipment.**

Rule 59. (1) A swimming pool owner shall provide, at a swimming pool, equipment for testing the disinfectant residual, the pH, and any other chemical characteristics of the water determined by the department to be important in the control of water quality which may include total alkalinity, calcium hardness, total dissolved solids, and cyanuric acid levels.

(2) A swimming pool owner shall ensure that a chemical test kit meets all of the following requirements:

(a) Is durable under normal pool use and storage conditions.

(b) Has an appropriate range of accuracy.

(c) Has fresh reagents.

(d) Is safe and simple to use.

(3) A swimming pool owner shall ensure that the pH test kit standards range from 6.8 to 8.0.

(4) A swimming pool owner shall ensure that the disinfectant test kit standards range from 0.0 to 5.0 mg/l or higher and are readable to the nearest 0.5 mg/l.

(5) A swimming pool owner shall use the n,n-diethyl-p-phenylenediamine (dpd) indicator or other generally accepted standard method for determining the disinfectant residual.

(6) When a cyanurate is used for disinfectant stabilization, a swimming pool owner shall provide test equipment for the cyanuric acid level.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2161 Water heaters and thermometers.**

Rule 61. (1) A swimming pool owner shall ensure that a swimming pool water heater piping system includes an external bypass of the heater if the swimming pool is larger than 3,000 gallons in volume or if the water heater is not designed for at least 100% of the required recirculation flow rate.

(2) A swimming pool owner shall not install a heating coil, pipe, or steam hose in a swimming pool.

(3) A swimming pool owner shall provide an automatic shutoff device for the heater that maintains pool water temperatures not to exceed those specified in R 325.2194.

(4) If a swimming pool has a pool water heater, then the owner shall provide a fixed thermometer at a point in the piping before the pool water heater to measure the temperature of the flowing water.

(5) A swimming pool owner shall ensure that a thermometer meets all of the following requirements:

(a) Is graduated to indicate temperature to the nearest 2 degrees Fahrenheit in the operating range.

(b) Is located to be read easily.

(c) Is located where it will not be subject to damage.

(d) Is located and installed in compliance with R 408.4001 et. seq.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2163 Vacuum cleaning systems.**

Rule 63. A swimming pool owner shall provide a vacuum cleaning system that is capable of cleaning the swimming pool.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

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**R 325.2165 Safety equipment.**

Rule 65. (1) A swimming pool owner shall equip a swimming pool with an acceptable long spineboard that has a minimum of 3 ties, runners, and a head immobilizer.

(2) A swimming pool owner shall equip a swimming pool with a first aid kit which is used primarily to treat small cuts, bruises, and burns and which contains all of the following first aid materials or their equivalent:

- (a) Four units of adhesive bandages, 1 inch by 3 inches.
- (b) Two units of 2-inch bandage compress.
- (c) One unit of 3-inch bandage compress.
- (d) One unit of 4-inch bandage compress.
- (e) Two units of absorbent gauze pad, 3 inches by 3 inches.
- (f) One unit of gauze compress, 18 inches by 36 inches.
- (g) Two units of large gauze compress, 24 inches by 72 inches.
- (h) Two units of 4-inch gauze roller bandages.
- (i) Two units of triangular bandages.
- (j) One unit of scissors.
- (k) One unit of tweezers.
- (l) Two units of instant ice packs.
- (m) Two units of latex disposable gloves.
- (n) One unit of adhesive plaster tape.

(3) A swimming pool owner shall equip a swimming pool with a kit to clean up blood spills which consists of as a minimum, a pair of medical-grade latex gloves and an antimicrobial hand wipe.

(4) A swimming pool owner shall equip a swimming pool, other than a wading pool or a spa pool, with both of the following:

- (a) A 1-piece, 12-foot long rescue pole which has blunt ends and which may have a shepherd's crook.
- (b) A ¼-inch diameter throwing rope as long as 1 ½ times the maximum width of the swimming pool or 50 feet, whichever is less, with 1 end attached to an 18-inch diameter ring buoy or rescue bag.

(5) A swimming pool owner shall equip a pool at which lifeguard service is provided with all of the following:

- (a) A megaphone or public address
- (b) One whistle per lifeguard on duty.
- (c) One rescue tube per lifeguard on duty where the water depth is more than 3.5 feet.
- (d) One resuscitation mask per lifeguard on duty.

(6) When multiple swimming pools are in the same enclosure or in close proximity, the department or local health department may accept 1 set of safety equipment for all of the pools.

(7) A swimming pool owner shall keep all required safety equipment in the pool enclosure or at another location approved by the department or local health department and shall keep the equipment stocked, in good repair, and in ready condition.

(8) A swimming pool owner shall provide a telephone or other suitable means of communication for emergencies. The owner may locate the telephone or other means of communication in any of the following areas:

- (a) Within the pool enclosure.
- (b) In another location approved, in writing, by the department. If another location is approved, the owner shall post a sign indicating the location of the telephone within the pool enclosure.

(9) A swimming pool owner shall post a sign at the telephone that indicates the phone numbers for emergency response agencies and the name and address of the swimming pool to assist emergency personnel in locating the facility.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2171 Mechanical equipment rooms.**

Rule 71. (1) A swimming pool owner shall ensure that a swimming pool mechanical equipment room meets all of the following requirements:

- (a) Is a properly lighted and ventilated structure constructed in accordance with the general rules of the

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construction code commission.

- (b) Affords the mechanical equipment protection from the weather.
- (c) Is readily accessible and convenient for operation and maintenance.
- (d) Prevents unauthorized access.
- (e) Is properly drained.
- (f) Enables servicing of the equipment.
- (g) Does not have a hatch-type opening located in a swimming pool enclosure.
- (h) Is easily accessible by a ramp or stairway if it is located at a floor level different from the pool enclosure.
- (i) Has a minimum ceiling height of 7 feet.
- (j) Has a sufficient usable floor area to permit servicing, removal, and replacement of all equipment, as follows:
  - (i) Has the greater of 80 square feet or 6.25% of the pool surface area, plus 30 square feet.
  - (ii) Has additional area equal to not less than 50% of the area calculated in paragraph (i) of this subdivision for an additional pool of equal or smaller surface area built at the same time or later.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2174 Bathhouse facilities, location, and design.**

Rule 74. (1) A swimming pool owner shall ensure that a swimming pool has a bathhouse with dressing, shower, and toilet facilities based on the maximum bather load prescribed by R 325.2193 and the fixture schedule prescribed by R 325.2175, except as follows:

- (a) Dressing and shower facilities are not required for a wading pool only.
- (b) The department may approve reductions in required poolside dressing, shower, and toilet facilities for a swimming pool located at establishments that have living units which are readily accessible from the swimming pool. If reductions in bathhouse facilities are approved, then the owner shall restrict the use of the swimming pool to residents or registered guests only. For apartments, condominiums, hotels, motels, manufactured housing communities, resorts, town houses, and similar establishments, the department may approve reductions in required facilities as follows:
  - (i) For a bather load of 100 persons or less, there shall be at least 1 nonenclosed poolside shower, 1 water closet for each sex, and 1 lavatory for each sex.
  - (ii) For a bather load of more than 100 persons, a 50% reduction in fixtures is permissible.
  - (iii) Dressing areas may be eliminated.
- (c) The department or local health department may approve nonenclosed poolside showers to replace enclosed shower facilities.
- (d) The department or local health department may approve a unisex toilet facility in place of facilities for each sex at swimming pools that have an anticipated maximum bather load of up to 25 persons. A swimming pool owner shall ensure that a unisex toilet facility is in compliance with R 408.30725b.
- (e) The department may approve other bathhouse fixture schedules for special purpose pools and other unusual situations.

(2) A swimming pool owner shall ensure that a bathhouse is designed to route swimmers directly onto the swimming pool walkway or deck.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2175 Bathhouse plumbing fixtures.**

Rule 75. (1) A swimming pool owner shall ensure that a bathhouse has showers and toilet facilities that are in compliance with the specifications of table 2 of this rule.

(2) Table 2 reads as follows:

Table 2

Minimum Bathhouse Fixtures

Maximum	Number of fixtures for each sex	Number of toilet fixtures toilet fixtures
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Bather Capacity* per R 325.2193					
			For males		For females
	Showers**	Lavatories	Water closets	Urinals ***	Water closets
1-50	1	1	2	0	2
51-100	2	2	2	1	3
101-200	3	2	3	1	4
201-300	4	3	4	1	5
301-500	5	3	5	1	6
501-700	6	4	6	1	7
701-1,000	7	4	7	1	8

\* In addition, a swimming pool owner shall provide 1 shower, 1 water closet, and 1 lavatory for each sex for each additional 300 persons, or fraction of 300 persons, starting at 1,001.

\*\*At a swimming pool used by school classes, a swimming pool owner shall provide 1 shower for every 3 people in the largest class for each sex. A owner may substitute nonenclosed poolside showers for showers in accordance with R 325.2174.

\*\*\*An owner may substitute urinals for not more than ½ of the required number of water closets.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2176 Bathhouse construction.**

Rule 76. (1) A swimming pool owner shall ensure that a bathhouse is designed and constructed to promote safe and sanitary conditions.

(2) A swimming pool owner shall ensure that a bathhouse meets all of the following design and construction requirements:

(a) The floor is durable, slip-resistant, easily cleanable, and nonabsorbent and does not have unsealed seams, open joints, or cracks.

(b) A wall or partition is durable, easily cleanable, and nonabsorbent and does not have unsealed seams or cracks.

(c) A junction between the floor and a wall or partition is coved to provide for cleanability.

(d) The floor is sloped to drains.

(e) The ceiling is constructed and finished with moisture-resistant materials.

(3) A swimming pool owner shall ensure that a locker is of rigid construction, properly vented, and set on legs or on a properly designed base to allow cleaning.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2178 Nonenclosed poolside showers.**

Rule 78. (1) A swimming pool owner shall provide a nonenclosed poolside shower in a swimming pool enclosure at locations necessary to prevent bathers from carrying dirt or debris into the pool.

(2) A swimming pool owner shall ensure that a nonenclosed shower is in compliance with all of the following requirements:

(a) Is supplied from the potable water system.

(b) Has a spray head which is not higher than 80 inches above the walkway and which is arranged to spray the bathers from head to feet during use.

(c) Is equipped with a conveniently located valve

(d) Has drainage to discharge the water immediately without ponding or creating a nuisance.

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(e) Is located where it will be effective without creating an accident hazard.

(f) Is supplied with tempered water in accordance with R 325.2125.

(3) A swimming pool owner shall not install a footbath in which water can accumulate.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2179 Hose and hose bibs.**

Rule 79. A swimming pool owner shall provide hose connections and hose adequate for cleaning the pool deck, walkway, and bathhouse.

History: 2001 MR 2, Eff. Feb. 2001.

**R 325.2181 Lighting.**

Rule 81. (1) A swimming pool owner shall provide a lighting system, natural or artificial, for a swimming pool. The system shall adequately illuminate the entire swimming pool and enclosure during all periods of use.

(2) A swimming pool owner shall illuminate a bathhouse, mechanical equipment room, or storage area.

(3) A swimming pool owner shall protect a lighting fixture against breakage.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2182 Heating, ventilation, and dehumidification.**

Rule 82. (1) A swimming pool owner shall ensure that a bathhouse, mechanical equipment room, storage area, and an indoor pool enclosure are adequately heated and ventilated in accordance with R 325.2113a.

(2) A swimming pool owner shall ensure that swimmers cannot come in contact with a heating unit.

(3) A swimming pool owner shall ensure that room ventilation and dehumidification prevent direct drafts on swimmers and minimize condensation.

(4) A swimming pool owner shall ensure that condensate from a pool enclosure dehumidification system is routed to waste only and is not routed to the pool.

History: 2001 MR 2, Eff. Feb. 2001.

**R 325.2183 Water slide pools.**

Rule 83. (1) This rule applies to water slide pools, water slide flumes, and other types of swimming pools that have water slide additions. In addition, water slide pools shall meet the requirements of R 325.2113a.

(2) A swimming pool owner shall install a water slide flume at a swimming pool in accordance with R 408.801 et seq.

(3) A swimming pool owner shall ensure that a water slide pool is designed and installed with sufficient length, width, and depth to bring riders to a complete stop and allow them to exit the pool in a safe manner.

(4) A water slide pool owner shall equip a water slide pool with a flume surge reservoir tank or other means designed to maintain the landing pool skimming water level.

(5) A swimming pool owner shall ensure that a swimming pool to which a water slide flume is added meets all of the following requirements:

(a) Has a turnover time by pool type as required in R 325.2136.

(b) Has an unobstructed walkway around the entire water slide flume support structure and which is within the pool enclosure.

(c) Has sufficient water surface area and volume so that the operational pool water level is not changed by more than 1 inch by the operation of all flume pumps. If the water surface area and volume is not sufficient, then the pool owner shall provide a means to maintain the skimming water level.

(d) Has a distance from the exit end of the flume to 1 or more means of egress located on the flume exit end wall or on an adjacent wall to facilitate the safe exit of riders from the pool.

(5) A pool owner shall ensure that a flume surge reservoir tank meets all of the following requirements:

(a) Has a surge capacity equal to a minimum of 2 minutes of combined flow from all pumps on the tank.

(b) Is accessible for cleaning and maintenance.

(c) Is protected from unauthorized entry.

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**2001 Edition**

(6) A pool owner shall ensure that flume pump suction meet both of the following requirements:

- (a) Are designed to prevent entrapment.
- (b) Are taken from the flume surge reservoir tank when the tank is provided.

History: 2001 MR 2, Eff. Feb. 2001.

**R 325.2184 Poolside slides.**

Rule 84. (1) A pool owner shall not install a poolside slide without prior approval from the department. A pool owner shall ensure that the poolside slide design and construction features, ladders, and handrails conform to the requirements of the slide manufacturer.

(2) A pool owner shall ensure that the poolside slide is positioned relative to all of the following to provide for the safety of persons using the slide and the pool:

- (a) The edge of a swimming pool.
- (b) Adjacent pool walls.
- (c) Lifelines.
- (d) Diving boards.
- (e) Other poolside slides.
- (f) Water slide flumes.
- (g) Pool ladders.
- (h) Stairways.

(3) A pool owner shall ensure that the poolside slide meets all of the following requirements:

- (a) Is constructed in accordance with the manufacturer's recommendations.
- (b) Has a runway height of not more than 10 feet above the walkway or deck.
- (c) Has the exit end not higher than 18 inches above the normal pool water surface.
- (d) Has the exit end overhang the edge of a pool not less than 6 inches.
- (e) Has a water depth of not less than 4.5 feet at the exit end, which shall be maintained for a distance of not less than 10 feet out from the exit end and for 3 feet on either side of the projected centerline.
- (f) Has a distance of not less than 16.5 feet from the exit end to a wall ahead.
- (g) Has a distance of not less than 3.5 feet from the projected centerline of the exit end parallel to any of the following:
  - (i) A lifeline.
  - (ii) A pool sidewall.
  - (iii) The side of a diving board.
  - (iv) The side of a water slide flume.
  - (v) The side of another poolside slide.
- (h) Has a distance of not less than 10 feet, measured along the projected centerlines, from the intersection of the exit end of any of the following:
  - (i) The poolside slide.
  - (ii) A diving board.
  - (iii) A water slide flume.
  - (iv) Another poolside slide.
- (i) Has a distance of not less than 10 feet, measured along the projected centerline, from the exit end of the poolside slide to the intersection with a lifeline.

(4) A pool owner shall permanently affix signs or labels to a slide, as provided by the manufacturer, warning against any of the following:

- (a) Headfirst sliding.
- (b) Diving from anywhere on the slide.
- (c) Other misuses of the slide.

History: 2001 MR 2, Eff. Feb. 2001.

**PART 3. OPERATION AND USE**

**R 325.2191 Pool doors and gates; use of safety equipment; surface maintenance; storage of chemicals; suits and towels; soap; trampolines.**

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Rule 91. (1) A swimming pool owner shall ensure that a door or a gate in a swimming pool enclosure is in compliance with all of the following provisions:

- (a) Is kept closed.
  - (b) Is locked while the swimming pool and the deck are not open for use.
  - (c) A service entrance door or gate is locked while the swimming pool is open for use.
  - (2) A swimming pool owner shall ensure that safety equipment is used only for its intended purpose and is not removed from its established location.
  - (3) A swimming pool owner shall keep a lifeline in its intended place, except when removed for supervised activity.
  - (4) A swimming pool owner shall keep all surfaces within a swimming pool enclosure, bathhouse, and related facilities clean, sanitary, and in good repair.
  - (5) A swimming pool owner shall store chemicals in the original container that has a label, away from flammables and heat, and in a clean, dry, and well-ventilated place which prevents unauthorized access to it and which prevents accidental spillage and mixing with other chemicals.
  - (6) If swimming suits or towels, or both, are furnished to swimming pool users, then the pool owner shall thoroughly launder the suits and towels after each use. The pool owner shall keep the supply of clean suits and towels separated in storage and handling from used, unlaundered suits and towels.
  - (7) A pool owner shall provide soap at each lavatory and at each shower.
  - (8) A pool owner may have a trampoline accessible for use only if the owner provides adequate supervision
- History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2192 Swimming pool use.**

Rule 92. (1) A swimming pool owner shall ensure that a person who has any of the following medical conditions is excluded from a swimming pool, except that the person may be granted use of a swimming pool upon a written determination by the department, a personal physician, or a local health officer that the condition will not affect the health of other persons using the pool:

- (a) An infectious or communicable disease.
- (b) A possibly infectious condition, such as a cold, skin eruption, or open blister.
- (2) A swimming pool owner or his or her representative may require a person who uses a swimming pool to take a cleansing shower before entering the swimming pool enclosure.
- (3) A swimming pool owner shall ensure that the bathing apparel worn in a swimming pool is clean.
- (4) A person shall not spit in, or otherwise pollute, swimming pool water or related facilities.
- (5) A swimming pool owner shall ensure that running or boisterous or rough play, is not permitted in a swimming pool enclosure or bathhouse.
- (6) A swimming pool owner shall ensure that a person wearing street clothes or shoes, is not permitted in a swimming pool.
- (7) A swimming pool owner shall ensure that glass, other breakable materials, or an object or material that might create a hazardous condition or interfere with the efficient operation of the swimming pool are not permitted in a swimming pool enclosure. A swimming pool owner shall post a sign that prohibits glass, other breakable materials, and hazardous objects or materials in the pool enclosure.
- (8) If the owner or operator allows food or drink and associated articles in a swimming pool enclosure, then the owner or operator shall comply with all of the following provisions:
  - (a) Provide poolside control to maintain safe and sanitary conditions.
  - (b) Not permit food preparation in a swimming pool enclosure.
  - (c) Prominently display a sign conveying requirements for safe and sanitary disposal of all food wastes and precluding consumption of food and beverages within the pool.
- (9) A swimming pool owner shall ensure that the consumption of alcoholic beverages in a spa pool is not permitted.
- (10) A swimming pool owner shall prominently display, at the pool, a sign warning against the use of a pool after the consumption of alcoholic beverages.
- (11) A swimming pool owner shall ensure that a pet or other animal, except for a trained guide dog accompanying a person who has a disability, is not permitted in a swimming pool enclosure. A guide dog is

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not permitted in a pool.

(12) A swimming pool owner shall ensure that diving is not permitted from the edge of a pool at any location where the water depth is less than 5 feet.

(13) A swimming pool owner shall remove starting platforms or make them physically nonusable after any type of competitive usage, except as provided by R 325.2135. A swimming pool owner shall ensure that starting platforms are not used for any noncompetitive use.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2193 Bather capacity limits.**

Rule 93. (1) A swimming pool owner shall ensure that the number of persons in bathing apparel within a swimming pool enclosure does not exceed the bather capacity limit established by the department or local health department.

(2) A swimming pool owner shall ensure that the bather capacity limit or maximum bather load is not more than the following number of persons, as applicable:

(a) Seven persons per 100 square feet of water surface area where the water depth is not more than 5 feet.

(b) Four persons per 100 square feet of water surface area where the water depth is more than 5 feet.

(c) One person per 100 square feet of walkway and usable deck area within the swimming pool enclosure.

(d) One person for every 2 lineal feet of spa pool bench inner perimeter, excluding the means of egress.

(3) The department may establish a smaller bather capacity limit for irregular conditions.

(4) A swimming pool owner shall prominently display the bather capacity limit within the swimming pool enclosure.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2194 Water quality standards.**

Rule 94. (1) A swimming pool owner shall maintain a suitable free available residual of the disinfectant throughout the swimming pool water.

(2) A swimming pool owner shall test the water before and during each period of swimming pool use, at a frequency of at least once per day, to assure the maintenance of pH and disinfectant residuals as established by table 3 of this rule.

(3) A swimming pool owner shall ensure that the minimum free available disinfectant residual maintained, in milligrams per liter, satisfies the specifications of table 3 of this rule.

(4) Table 3 reads as follows:

**Table 3**

Disinfectant Residuals (Milligrams per liter)		
Disinfectant	pH	
	7.2 to 7.5	More than 7.5 to 8.0
Bromine	2.0	2.0
Chlorine	1.0	2.0
Chlorinated cyanurate*	2.0	4.0

\*At 20 to 40 parts per million (ppm) cyanuric acid (cya). For higher levels of cya, add 0.5 mg/l for each additional 20 ppm cya, or fraction of 20 ppm above 40 ppm.

(5) The minimum disinfectant residual maintained with a different disinfectant shall be that which is as effective as provided in R 325.2156.

(6) When a cyanurate is used, a swimming pool owner shall ensure that the cyanuric acid level of the swimming pool water is not more than 80 milligrams per liter and is tested at least once each week and more frequently if necessary.

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(7) A swimming pool owner shall ensure that the water temperature of a swimming pool is not more than 104 degrees Fahrenheit.

(8) A swimming pool owner shall prominently display at the pool, a caution sign, acceptable to the department, stating the maximum operating water temperature, other pertinent health warnings, and warning against the use of the pool by young children when the normal water temperature is more than 86 degrees Fahrenheit.

(9) A swimming pool owner shall ensure that a swimming pool is used only when the water is sufficiently clear to readily discern either of the following from the edge of the pool:

(a) The entire bottom of the pool.

(b) The main outlet grating from a horizontal distance up to 30 feet.

(10) If a swimming pool becomes polluted with feces, vomit, sewage, or other material, then the owner shall immediately close the pool from use and take actions to mitigate the pollution and restore water quality. The owner or operator may reopen the pool according to the contingency plan adopted by the owner under R 325.2194a and available for review by the department or local health department, if there is no approved contingency plan, then the owner shall obtain approval to reopen the pool from the department or local health department.

(11) A swimming pool owner shall promptly remove visible dirt on the bottom of a swimming pool or floating on the water surface.

(12) A spa pool owner shall drain, clean, sanitize, and refill a spa pool at a frequency acceptable to the department or local health department as necessary to maintain sanitary conditions.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2194a Contingency and emergency response plans.**

Rule 94a. (1) The owner of a swimming pool shall prepare and implement a contingency and emergency response plan. The owner of a swimming pool shall have the contingency and emergency response plan available for review at the pool.

(2) The contingency plan shall, at a minimum, outline a program for rapid mitigation of contamination or water quality deterioration according to R 325.2194.

(3) The emergency response plan shall outline minimum topics including the following:

(a) Rescues and submersions.

(b) Equipment failure.

(c) Injury requiring medical attention

(d) Other conditions or events that create a hazard to the health and safety of persons using the pool.

History: 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2195 Collection and analyses of water samples for coliform bacteria.**

Rule 95. (1) The owner of a public swimming pool shall be responsible for the collection and the examination of water samples for coliform bacteria at a frequency of at least once per quarter. The department or local health department may determine whether additional monitoring is needed if necessary to protect the public health.

(2) A swimming pool owner or operator shall ensure that all water samples are analyzed for total coliform bacteria at the state laboratory or a laboratory certified by the department or by the United States Environmental Protection Agency to analyze drinking water.

(3) The presence of total coliform bacteria or pathogenic organisms in the water sample is unacceptable water quality. A heterotrophic plate count of more than 200 bacteria per milliliter in a sample is unacceptable water quality.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2196 Water treatment.**

Rule 96. (1) A swimming pool owner or operator shall continuously recirculate, filter, and disinfect swimming pool water 24 hours per day at a flow rate sufficient to recirculate the swimming pool volume of

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water within the time period required by R 325.2136, without interruption, except for cleaning the filters or for other maintenance and repairs.

(2) A swimming pool owner or operator shall ensure that a swimming pool is not used when its water treatment equipment is not functioning properly.

(3) A swimming pool owner or operator shall maintain the water level in a swimming pool at an elevation suitable for continuous skimming flow into the overflow system without flooding it.

(4) A swimming pool owner or operator shall use only the chemical that a chemical feeder manufacturer specifies for application by the chemical feeder.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2197 Presence of person qualified to test water and operate water treatment equipment required; "qualified person" and "readily available" defined.**

Rule 97. (1) A swimming pool owner shall ensure that a qualified person who is responsible for testing the water and for operating the water treatment equipment of a swimming pool is readily available when the pool is open for use.

(2) As used in this rule, "readily available" means any of the following:

(a) In any of the following locations:

(i) The pool enclosure.

(ii) The mechanical equipment room.

(iii) Adjacent offices.

(iv) Other rooms adjacent to the pool enclosure.

(v) On the premises.

(b) On-call within 15 minutes of travel time to the pool.

(c) At another suitable location acceptable to the department or local health department.

(3) As used in this rule, "qualified person" means a person who is familiar with swimming pool operation and who is authorized by the owner to operate the pool mechanical equipment, close the pool when necessary, test the pool water, and adjust the pool water chemical parameters.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2198 Lifeguards.**

Rule 98. (1) A swimming pool owner or operator shall provide lifeguard service at a swimming pool, other than a wading pool or a spa pool, if any of the following provisions apply to the swimming pool:

(a) The pool is owned or operated by a government, a governmental subdivision or agency, a public corporation, or a school.

(b) The total water surface area within the swimming pool enclosure is more than 2,400 square feet.

(c) A diving board is provided.

(2) If lifeguard service is required by subrule (1) of this rule, then a swimming pool owner or operator shall ensure that 1 lifeguard for every 75 people within the swimming pool is on duty in the enclosure when the swimming pool is open for use. The department may waive this requirement if a contingency plan has been adopted by the owner and approved by the department under R 325.2194a.

(3) A lifeguard shall meet all of the following requirements:

(a) Be a capable swimmer and be competent in lifeguarding techniques.

(b) Have satisfactorily completed a recognized course of instruction in adult, child, and infant cardiopulmonary resuscitation with training in 2-person and resuscitation barriers of the type offered by the American Red Cross, the American Heart Association, or the National Safety Council. A swimming pool owner or operator shall post valid and current evidence of successful completion of the course at the swimming pool when it is open for use.

(c) At a minimum, have satisfactorily completed a nationally recognized course of instruction, such as any of the following:

(i) The American Red Cross lifeguarding course.

(ii) The Young Men's Christian Association lifeguard course.

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- (iii) The national pool and waterpark pool lifeguard course.
- (iv) An equivalent lifeguard training course approved by the department. A swimming pool owner or operator shall post valid and current evidence of successful completion of the course at the swimming pool when it is open for use.
- (d) Be dressed in suitable swimming attire which allows the lifeguard to be suitably prepared to enter the water and act in an emergency and which allows persons in the enclosure to be able to readily identify the lifeguard.
- (e) Ensure the proper supervision of instructional and recreational aquatic activities in the pool enclosure. Activities that would distract from the proper supervision of persons using the swimming pool or prevent immediate attention to a person in distress are prohibited. An instructor, teacher, or coach meeting the lifeguard requirements of this rule shall directly supervise swimming programs, such as any of the following:
  - (i) Recreational swimming.
  - (ii) Lap swimming.
  - (iii) Competitive swimming.
  - (iv) Water exercise classes.
  - (v) Swimming lessons.
  - (vi) Scuba lessons.
  - (vii) Physical education classes.

If a supervising instructor, teacher, or coach does not meet the lifeguard requirements of this rule, then a swimming pool owner or operator shall provide a separate lifeguard who meets the requirements of this rule.

(f) Have the authority to enforce, and be responsible for enforcing rules pertaining to safety and sanitation.

(4) The department shall maintain a listing of cardiopulmonary resuscitation courses and lifeguarding courses that the department determines is equivalent to the type of course required by subrule (3)(a), (b), or (c) of this rule. The agencies offering the other courses are responsible for providing sufficient evidence to the department to determine course equivalency.

(5) At a swimming pool where lifeguard service is not required by subrule (1) of this rule and is not provided, a swimming pool owner or operator shall prominently display a sign warning that there is no lifeguard on duty. The owner or operator shall ensure that the sign has legible letters that are not less than 4 inches high.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**R 325.2199 Operation reports.**

Rule 99. (1) A swimming pool operator shall record the following information daily on a report form furnished by or acceptable to the department:

- (a) Swimming pool operational data.
- (b) Information about rescues, submersions, and accidents given medical attention.
- (2) The operator shall submit a completed operation report to the department or the local health department in compliance with either of the following provisions:
  - (a) Within 10 days after the end of each month in which the swimming pool was in operation.
  - (b) According to an alternative submission schedule approved in writing by the department or local health department.

History: 1954 ACS 67, Eff. Mar. 24, 1971; 1979 AC; 1979 ACS 15, Eff. July 21, 1983; 2001 MR 2, Eff. Feb. 6, 2001.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**  
**OFFICE OF DIRECTOR**  
**AMBULANCES**

**R 325.2201**

**Source:** 1997 AACs.



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**R 325.2202**  
**Source:** 1997 AACS.

**R 325.2203**  
**Source:** 1997 AACS.

**R 325.2204**  
**Source:** 1997 AACS.

**R 325.2205**  
**Source:** 1997 AACS.

**R 325.2206**  
**Source:** 1997 AACS.

**R 325.2207**  
**Source:** 1997 AACS.

**R 325.2208**  
**Source:** 1997 AACS.

**BUREAU OF HEALTH CARE ADMINISTRATION**  
**ADVANCED EMERGENCY MEDICAL SERVICES**

**R 325.2211—R 325.2246**  
**Source:** 1997 AACS.

**R 325.2221**  
**Source:** 1997 AACS.

**R 325.2222**  
**Source:** 1997 AACS.

**R 325.2223**  
**Source:** 1997 AACS.

**R 325.2224**  
**Source:** 1997 AACS.

**R 325.2225**  
**Source:** 1997 AACS.

**R 325.2226**  
**Source:** 1997 AACS.

**R 325.2227**  
**Source:** 1997 AACS.

**R 325.2228**  
**Source:** 1997 AACS.

**R 325.2231**  
**Source:** 1997 AACS.

**R 325.2232**  
**Source:** 1997 AACS.

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**R 325.2233**  
**Source:** 1997 AACS.

**R 325.2234**  
**Source:** 1997 AACS.

**R 325.2241**  
**Source:** 1997 AACS.

**R 325.2242**  
**Source:** 1997 AACS.

**R 325.2243**  
**Source:** 1997 AACS.

**R 325.2244**  
**Source:** 1997 AACS.

**R 325.2245**  
**Source:** 1997 AACS.

**R 325.2246**  
**Source:** 1997 AACS.

**BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH  
OCCUPATIONAL AIR CONTAMINANTS AND PHYSICAL AGENTS**

**R 325.2430**  
**Source:** 1997 AACS.

**DEPARTMENT OF AGRICULTURE  
FOOD SERVICE SANITATION**

**R 325.2501**  
**Source:** 1997 AACS.

**R 325.2502**  
**Source:** 1997 AACS.

**R 325.2503**  
**Source:** 1997 AACS.

**R 325.2504**  
**Source:** 1997 AACS.

**R 325.2505**  
**Source:** 1997 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
OFFICE OF THE DIRECTOR  
MERCURY LEVELS IN FISH FROM MICHIGAN WATERS**

**R 325.2601**  
**Source:** 1997 AACS.

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**R 325.2602**  
**Source:** 1997 AACS.

**R 325.2603**  
**Source:** 1997 AACS.

**R 325.2604**  
**Source:** 1997 AACS.

**R 325.2605**  
**Source:** 1997 AACS.

**DEPARTMENT OF STATE POLICE  
SPECIAL OPERATIONS DIVISION  
TESTS FOR BREATH ALCOHOL**

**R 325.2651**  
**Source:** 1994 AACS.

**R 325.2652**  
**Source:** 1994 AACS.

**R 325.2653**  
**Source:** 1994 AACS.

**R 325.2654**  
**Source:** 1992 AACS.

**R 325.2655**  
**Source:** 1994 AACS.

**R 325.2656**  
**Source:** 1994 AACS.

**R 325.2657**  
**Source:** 1997 AACS.

**R 325.2658**  
**Source:** 1994 AACS.

**FORENSIC SCIENCE DIVISION  
ALCOHOL TESTING OF BLOOD AND URINE**

**R 325.2671**  
**Source:** 1993 AACS.

**R 325.2672**  
**Source:** 1993 AACS.

**R 325.2673**  
**Source:** 1993 AACS.

**R 325.2674**  
**Source:** 1993 AACS.

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**R 325.2675**

**Source:** 1993 AACS.

**R 325.2676**

**Source:** 1997 AACS.

**R 325.2677**

**Source:** 1997 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH**  
**SOLID WASTE DISPOSAL**

**R 325.2701**

**Source:** 1997 AACS.

**R 325.2702**

**Source:** 1997 AACS.

**R 325.2721**

**Source:** 1997 AACS.

**R 325.2722**

**Source:** 1997 AACS.

**R 325.2723**

**Source:** 1997 AACS.

**R 325.2731**

**Source:** 1997 AACS.

**R 325.2732**

**Source:** 1997 AACS.

**R 325.2733**

**Source:** 1997 AACS.

**R 325.2734**

**Source:** 1997 AACS.

**R 325.2735**

**Source:** 1997 AACS.

**R 325.2741**

**Source:** 1997 AACS.

**R 325.2742**

**Source:** 1997 AACS.

**R 325.2743**

**Source:** 1997 AACS.

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**R 325.2744**

**Source:** 1997 AACCS.

**R 325.2745**

**Source:** 1997 AACCS.

**R 325.2746**

**Source:** 1997 AACCS.

**R 325.2747**

**Source:** 1997 AACCS.

**R 325.2749**

**Source:** 1997 AACCS.

**R 325.2751**

**Source:** 1997 AACCS.

**R 325.2752**

**Source:** 1997 AACCS.

**R 325.2753**

**Source:** 1997 AACCS.

**R 325.2754**

**Source:** 1997 AACCS.

**R 325.2755**

**Source:** 1997 AACCS.

**R 325.2756**

**Source:** 1997 AACCS.

**R 325.2757**

**Source:** 1997 AACCS.

**R 325.2758**

**Source:** 1997 AACCS.

**R 325.2759**

**Source:** 1997 AACCS.

**R 325.2760**

**Source:** 1997 AACCS.

**R 325.2761**

**Source:** 1997 AACCS.

**R 325.2762**

**Source:** 1997 AACCS.

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**R 325.2763**  
**Source:** 1997 AACS.

**R 325.2764**  
**Source:** 1997 AACS.

**R 325.2765**  
**Source:** 1997 AACS.

**R 325.2766**  
**Source:** 1997 AACS.

**R 325.2767**  
**Source:** 1997 AACS.

**R 325.2771**  
**Source:** 1997 AACS.

**R 325.2772**  
**Source:** 1997 AACS.

**R 325.2773**  
**Source:** 1997 AACS.

**R 325.2774**  
**Source:** 1997 AACS.

**R 325.2775**  
**Source:** 1997 AACS.

**R 325.2776**  
**Source:** 1997 AACS.

**R 325.2777**  
**Source:** 1997 AACS.

**R 325.2778**  
**Source:** 1997 AACS.

**R 325.2781**  
**Source:** 1997 AACS.

**R 325.2782**  
**Source:** 1997 AACS.

**R 325.2783**  
**Source:** 1997 AACS.

**R 325.2784**  
**Source:** 1997 AACS.

**R 325.2785**

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**Source:** 1997 AACS.

**R 325.2786**

**Source:** 1997 AACS.

**R 325.2787**

**Source:** 1997 AACS.

**R 325.2788**

**Source:** 1997 AACS.

**R 325.2789**

**Source:** 1997 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
OFFICE OF THE DIRECTOR  
CERTIFICATION OF SPECIAL SERVICES IN HOSPITALS**

**R 325.3001**

**Source:** 1997 AACS.

**R 325.3051**

**Source:** 1997 AACS.

**R 325.3053**

**Source:** 1997 AACS.

**R 325.3055**

**Source:** 1997 AACS.

**R 325.3057**

**Source:** 1997 AACS.

**R 325.3058**

**Source:** 1997 AACS.

**R 325.3061**

**Source:** 1997 AACS.

**R 325.3063**

**Source:** 1997 AACS.

**R 325.3064**

**Source:** 1997 AACS.

**R 325.3065**

**Source:** 1997 AACS.

**R 325.3066**

**Source:** 1997 AACS.

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**R 325.3067**  
**Source:** 1997 AACs.

**R 325.3068**  
**Source:** 1997 AACs.

**R 325.3069**  
**Source:** 1997 AACs.

**R 325.3070**  
**Source:** 1997 AACs.

**R 325.3071**  
**Source:** 1997 AACs.

**R 325.3073**  
**Source:** 1997 AACs.

**R 325.3074**  
**Source:** 1997 AACs.

**R 325.3075**  
**Source:** 1997 AACs.

**R 325.3077**  
**Source:** 1997 AACs.

**R 325.3078**  
**Source:** 1997 AACs.

**R 325.3079**  
**Source:** 1997 AACs.

**R 325.3080**  
**Source:** 1997 AACs.

**R 325.3082**  
**Source:** 1997 AACs.

**R 325.3084**  
**Source:** 1997 AACs.

**R 325.3085**  
**Source:** 1997 AACs.

**R 325.3087**  
**Source:** 1997 AACs.

**R 325.3088**  
**Source:** 1997 AACs.

**R 325.3089**



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**Source:** 1997 AACS.

**R 325.3091**

**Source:** 1997 AACS.

**R 325.3101**

**Source:** 1997 AACS.

**R 325.3103**

**Source:** 1997 AACS.

**R 325.3105**

**Source:** 1997 AACS.

**R 325.3107**

**Source:** 1997 AACS.

**R 325.3108**

**Source:** 1997 AACS.

**R 325.3110**

**Source:** 1997 AACS.

**R 325.3112**

**Source:** 1997 AACS.

**R 325.3113**

**Source:** 1997 AACS.

**R 325.3114**

**Source:** 1997 AACS.

**R 325.3116**

**Source:** 1997 AACS.

**R 325.3117**

**Source:** 1997 AACS.

**R 325.3118**

**Source:** 1997 AACS.

**R 325.3119**

**Source:** 1997 AACS.

**R 325.3121**

**Source:** 1997 AACS.

**R 325.3123**

**Source:** 1997 AACS.

**R 325.3124**

**Source:** 1997 AACS.

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**R 325.3125**  
**Source:** 1997 AACCS.

**R 325.3127**  
**Source:** 1997 AACCS.

**R 325.3128**  
**Source:** 1997 AACCS.

**R 325.3129**  
**Source:** 1997 AACCS.

**R 325.3131**  
**Source:** 1997 AACCS.

**R 325.3132**  
**Source:** 1997 AACCS.

**R 325.3134**  
**Source:** 1997 AACCS.

**R 325.3136**  
**Source:** 1997 AACCS.

**R 325.3138**  
**Source:** 1997 AACCS.

**R 325.3139**  
**Source:** 1997 AACCS.

**R 325.3140**  
**Source:** 1997 AACCS.

**R 325.3141**  
**Source:** 1997 AACCS.

**R 325.3142**  
**Source:** 1997 AACCS.

**R 325.3144**  
**Source:** 1997 AACCS.

**R 325.3151**  
**Source:** 1997 AACCS.

**R 325.3153**  
**Source:** 1997 AACCS.

**R 325.3155**  
**Source:** 1997 AACCS.

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**R 325.3157**  
**Source:** 1997 AACCS.

**R 325.3158**  
**Source:** 1997 AACCS.

**R 325.3159**  
**Source:** 1997 AACCS.

**R 325.3160**  
**Source:** 1997 AACCS.

**R 325.3161**  
**Source:** 1997 AACCS.

**R 325.3162**  
**Source:** 1997 AACCS.

**R 325.3165**  
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**R 325.3166**  
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**R 325.3167**  
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**R 325.3168**  
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**R 325.3170**  
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**R 325.3171**  
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**R 325.3172**  
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**R 325.3173**  
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**R 325.3174**  
**Source:** 1997 AACCS.

**R 325.3176**  
**Source:** 1997 AACCS.

**R 325.3178**

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**Source:** 1997 AACS.

**R 325.3181**

**Source:** 1997 AACS.

**R 325.3182**

**Source:** 1997 AACS.

**R 325.3184**

**Source:** 1997 AACS.

**R 325.3185**

**Source:** 1997 AACS.

**R 325.3187**

**Source:** 1997 AACS.

**OFFICE OF VITAL AND HEALTH STATISTICS**

**COMPLETION, FILING, AND REGISTRATION OF VITAL RECORDS DOCUMENTS**

**R 325.3201**

**Source:** 1981 AACS.

**R 325.3202**

**Source:** 1981 AACS.

**R 325.3203**

**Source:** 1981 AACS.

**R 325.3204**

**Source:** 1981 AACS.

**R 325.3205**

**Source:** 1981 AACS.

**R 325.3206**

**Source:** 1981 AACS.

**R 325.3207**

**Source:** 1981 AACS.

**R 325.3208**

**Source:** 1981 AACS.

**R 325.3209**

**Source:** 1981 AACS.

**R 325.3210**

**Source:** 1981 AACS.

**R 325.3211**

**Source:** 1981 AACS.

**R 325.3212**

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**Source:** 1981 AACS.

**R 325.3213**

**Source:** 1981 AACS.

**R 325.3214**

**Source:** 1981 AACS.

**R 325.3215**

**Source:** 1981 AACS.

**R 325.3216**

**Source:** 1981 AACS.

**R 325.3217**

**Source:** 1981 AACS.

**R 325.3218**

**Source:** 1981 AACS.

**R 325.3219**

**Source:** 1981 AACS.

**R 325.3220**

**Source:** 1981 AACS.

**R 325.3221**

**Source:** 1981 AACS.

**VITAL RECORDS INSPECTION AND DISCLOSURE**

**R 325.3231**

**Source:** 1983 AACS.

**R 325.3232**

**Source:** 1983 AACS.

**R 325.3233**

**Source:** 1983 AACS.

**R 325.3234**

**Source:** 1983 AACS.

**R 325.3235**

**Source:** 1983 AACS.

**R 325.3236**

**Source:** 1983 AACS.

**AMENDMENTS TO VITAL RECORDS**

**R 325.3251**

**Source:** 1981 AACS.

**R 325.3252**

**Source:** 1981 AACS.

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**R 325.3253**  
**Source:** 1981 AACS.

**R 325.3254**  
**Source:** 1981 AACS.

**R 325.3255**  
**Source:** 1981 AACS.

**R 325.3256**  
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**R 325.3257**  
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**R 325.3258**  
**Source:** 1981 AACS.

**R 325.3259**  
**Source:** 1981 AACS.

**R 325.3260**  
**Source:** 1981 AACS.

**R 325.3261**  
**Source:** 1981 AACS.

**R 325.3262**  
**Source:** 1981 AACS.

**R 325.3263**  
**Source:** 1981 AACS.

**R 325.3264**  
**Source:** 1981 AACS.

**R 325.3265**  
**Source:** 1981 AACS.

**R 325.3266**  
**Source:** 1981 AACS.

**R 325.3267**  
**Source:** 1981 AACS.

**DIVISION OF CHILD HEALTH  
HEARING SCREENING AND TESTS**

**R 325.3271**  
**Source:** 1981 AACS.

**R 325.3272**  
**Source:** 1981 AACS.

**R 325.3273**  
**Source:** 1981 AACS.

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**R 325.3274**  
**Source:** 1981 AACS.

**R 325.3275**  
**Source:** 1981 AACS.

**R 325.3276**  
**Source:** 1981 AACS.

**DEPARTMENT OF AGRICULTURE**  
**BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH**  
**MOBILE HOME PARKS AND SEASONAL MOBILE HOME PARKS**

**PART 1. GENERAL PROVISIONS**

**R 325.3311**  
**Source:** 1984 AACS.

**R 325.3312**  
**Source:** 1980 AACS.

**R 325.3313**  
**Source:** 1980 AACS.

**R 325.3314**  
**Source:** 1984 AACS.

**PART 2. WATER SUPPLY SYSTEMS**

**R 325.3321**  
**Source:** 1984 AACS.

**PART 3. SEWAGE COLLECTION AND DISPOSAL SYSTEMS**

**R 325.3331**  
**Source:** 1984 AACS.

**R 325.3332**  
**Source:** 1984 AACS.

**R 325.3333**  
**Source:** 1980 AACS.

**R 325.3334**  
**Source:** 1984 AACS.

**R 325.3335**  
**Source:** 1984 AACS.

**PART 4. DRAINAGE**

**R 325.3341**  
**Source:** 1984 AACS.

**R 325.3342**  
**Source:** 1984 AACS.

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**R 325.3343**

**Source:** 1984 AACS.

**R 325.3344**

**Source:** 1980 AACS.

**R 325.3345**

**Source:** 1980 AACS.

**R 325.3346**

**Source:** 1980 AACS.

**R 325.3347**

**Source:** 1984 AACS.

**R 325.3348**

**Source:** 1980 AACS.

**R 325.3349**

**Source:** 1980 AACS.

**PART 5. GARBAGE AND RUBBISH STORAGE AND DISPOSAL**

**R 325.3351**

**Source:** 1984 AACS.

**R 325.3352**

**Source:** 1984 AACS.

**R 325.3353**

**Source:** 1984 AACS.

**R 325.3354**

**Source:** 1984 AACS.

**PART 6. INSECT AND RODENT CONTROL**

**R 325.3361**

**Source:** 1984 AACS.

**R 325.3362**

**Source:** 1984 AACS.

**R 325.3363**

**Source:** 1980 AACS.

**PART 7. GENERAL OPERATION, MAINTENANCE, AND SAFETY**

**R 325.3371**

**Source:** 1984 AACS.

**R 325.3372**

**Source:** 1984 AACS.

**R 325.3373**

**Source:** 1984 AACS.

**R 325.3374**



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**Source:** 1984 AACS.

**PART 8. COORDINATION OF APPROVALS FOR CONSTRUCTION**

**R 325.3381**

**Source:** 1984 AACS.

**R 325.3382**

**Source:** 1984 AACS.

**R 325.3383**

**Source:** 1980 AACS.

**R 325.3384**

**Source:** 1984 AACS.

**R 325.3385**

**Source:** 1984 AACS.

**PART 9. CERTIFICATION OF COMPLIANCE**

**R 325.3391**

**Source:** 1984 AACS.

**R 325.3392**

**Source:** 1984 AACS.

**R 325.3393**

**Source:** 1984 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES  
VENEREAL DISEASE**

**R 325.3401**

**Source:** 1997 AACS.

**R 325.3402**

**Source:** 1997 AACS.

**R 325.3403**

**Source:** 1997 AACS.

**R 325.3404**

**Source:** 1997 AACS.

**R 325.3405**

**Source:** 1997 AACS.

**R 325.3406**

**Source:** 1997 AACS.

**R 325.3407**

**Source:** 1997 AACS.

**R 325.3408**

**Source:** 1997 AACS.

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**R 325.3409**  
**Source:** 1997 AACS.

**R 325.3410**  
**Source:** 1981 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**  
**OCCUPATIONAL HEALTH STANDARDS COMMISSION**  
**EMPLOYEE MEDICAL RECORDS AND TRADE SECRETS**

**R 325.3451**  
**Source:** 1983 AACS.

**R 325.3452**  
**Source:** 1998-2000 AACS.

**R 325.3453**  
**Source:** 1998-2000 AACS.

**R 325.3454**  
**Source:** 1983 AACS.

**R 325.3455**  
**Source:** 1983 AACS.

**R 325.3456**  
**Source:** 1993 AACS.

**R 325.3457**  
**Source:** 1993 AACS.

**R 325.3458**  
**Source:** 1983 AACS.

**R 325.3459**  
**Source:** 1993 AACS.

**R 325.3460**  
**Source:** 1993 AACS.

**R 325.3461**  
**Source:** 1993 AACS.

**R 325.3462**  
**Source:** 1983 AACS.

**R 325.3463**  
**Source:** 1983 AACS.

**R 325.3464**  
**Source:** 1993 AACS.

**R 325.3465**  
**Source:** 1983 AACS.

**R 325.3466**

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**Source:** 1983 AACs.

**R 325.3467**

**Source:** 1993 AACs.

**R 325.3468**

**Source:** 1983 AACs.

**R 325.3469**

**Source:** 1983 AACs.

**R 325.3470**

**Source:** 1983 AACs.

**R 325.3471**

**Source:** 1993 AACs.

**R 325.3472**

**Source:** 1993 AACs.

**R 325.3472a**

**Source:** 1993 AACs.

**R 325.3473**

**Source:** 1993 AACs.

**R 325.3474**

**Source:** 1983 AACs.

**R 325.3475**

**Source:** 1983 AACs.

**R 325.3476**

**Source:** 1998-2000 AACs.

**DEPARTMENT OF COMMUNITY HEALTH**

**BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES**

**IMMUNIZATIONS IN SCHOOLS, DAY CARE CENTERS, AND CAMPING PROGRAMS**

**R 325.3501**

**Source:** 1997 AACs.

**R 325.3502**

**Source:** 1997 AACs.

**R 325.3503**

**Source:** 1997 AACs.

**R 325.3504**

**Source:** 1997 AACs.

**R 325.3505**

**Source:** 1997 AACs.

**R 325.3506**

**Source:** 1997 AACs.

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**R 325.3507**  
**Source:** 1997 AACS.

**R 325.3508**  
**Source:** 1997 AACS.

**R 325.3509**  
**Source:** 1997 AACS.

**R 325.3510**  
**Source:** 1997 AACS.

**R 325.3511**  
**Source:** 1997 AACS.

**R 325.3512**  
**Source:** 1997 AACS.

**R 325.3513**  
**Source:** 1997 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**  
**BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH**  
**ASBESTOS CONTRACTOR LICENSING**

**R 325.3551**  
**Source:** 1988 AACS.

**R 325.3553**  
**Source:** 1988 AACS.

**R 325.3555**  
**Source:** 1988 AACS.

**R 325.3557**  
**Source:** 1988 AACS.

**R 325.3559**  
**Source:** 1988 AACS.

**R 325.3561**  
**Source:** 1988 AACS.

**R 325.3563**  
**Source:** 1988 AACS.

**R 325.3565**  
**Source:** 1988 AACS.

**R 325.3567**  
**Source:** 1988 AACS.

**R 325.3569**  
**Source:** 1988 AACS.

**R 325.3571**  
**Source:** 1988 AACS.

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**AGRICULTURAL LABOR CAMPS**

**R 325.3601**  
**Source:** 1989 AACS.

**R 325.3603**  
**Source:** 1989 AACS.

**R 325.3605**  
**Source:** 1989 AACS.

**R 325.3607**  
**Source:** 1989 AACS.

**R 325.3609**  
**Source:** 1989 AACS.

**R 325.3611**  
**Source:** 1989 AACS.

**R 325.3613**  
**Source:** 1989 AACS.

**R 325.3615**  
**Source:** 1989 AACS.

**R 325.3617**  
**Source:** 1989 AACS.

**R 325.3619**  
**Source:** 1989 AACS.

**R 325.3621**  
**Source:** 1989 AACS.

**R 325.3623**  
**Source:** 1989 AACS.

**R 325.3625**  
**Source:** 1989 AACS.

**R 325.3627**  
**Source:** 1989 AACS.

**R 325.3629**  
**Source:** 1989 AACS.

**R 325.3631**  
**Source:** 1989 AACS.

**R 325.3633**  
**Source:** 1989 AACS.

**R 325.3635**  
**Source:** 1989 AACS.

**R 325.3637**  
**Source:** 1989 AACS.

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**R 325.3639**  
**Source:** 1989 AACS.

**R 325.3641**  
**Source:** 1989 AACS.

**R 325.3643**  
**Source:** 1989 AACS.

**R 325.3699**  
**Source:** 1989 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
OFFICE OF THE DIRECTOR  
TOXIC SUBSTANCE LOAN PROGRAM**

**R 325.3701**  
**Source:** 1997 AACS.

**R 325.3702**  
**Source:** 1997 AACS.

**R 325.3703**  
**Source:** 1997 AACS.

**R 325.3704**  
**Source:** 1997 AACS.

**R 325.3705**  
**Source:** 1997 AACS.

**R 325.3706**  
**Source:** 1997 AACS.

**R 325.3707**  
**Source:** 1997 AACS.

**R 325.3708**  
**Source:** 1997 AACS.

**R 325.3709**  
**Source:** 1997 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**BUREAU OF HEALTH SYSTEMS**

**FREESTANDING SURGICAL OUTPATIENT FACILITIES**

**R 325.3801 Definitions; A.**

Rule 1. As used in these rules:

- (a) "Act" means 1978 PA 368, being §§333.1001 et seq.
- (b) "Anesthesia" means a state of loss of feeling or sensation and is normally used to denote the loss of

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sensation to pain purposely induced by the use of a specific gas or drug to permit the performance of surgery or other painful procedure.

(c) "Anesthesiologist" means a physician who specializes in the field of anesthesiology and who may or may not be a diplomate of his or her specialty board.

(d) "Anesthetic" means a drug, gas, or other agent used to abolish the sensation of pain. There are 3 classifications as follows:

(i) "General anesthetic" means an anesthetic agent that produces a temporary loss of consciousness by the administration of a gas; oral, intramuscular, and intravenous drugs; or a combination of these methods.

(ii) "Local anesthetic" means a drug whose action is limited to an area of the body around the site of its application.

(iii) "Spinal," "epidural," or "caudal" anesthetic means the injection of an appropriate local type of anesthetic into the spinal canal, epidural area, to produce a local loss of sensitivity to the body areas at and below the sensory nerve distribution at the level of injection.

(e) "Anesthetist" means a person who is qualified to administer anesthetic. In common usage, the term applies to nurses and lay persons who have had special training and experience under medical auspices in the administration of anesthetics.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3802 Definitions; C to S.**

Rule 2. As used in these rules:

(a) "Code" means 1978 PA 368, MCL 333.1101 et seq.

(b) "Department" means the department of consumer and industry services.

(c) "Director" means the director of the department.

(d) "Freestanding surgical outpatient facility" or "facility" means a facility as defined in section 20104(5) of the code and includes, but is not limited to, a facility that includes a private practice office in which 50% or more of the patients annually served at the facility undergo an abortion.

(e) "Hospital" means a facility defined in section 20106(5) of the code.

(f) "Nurse" means an individual who is currently licensed or registered as a nurse by the state.

(g) "Physician" means a person licensed to practice medicine or osteopathy in this state.

(h) "Pregnancy termination facility" means a facility, including, but not limited to, a private practice office in which 50% or more of the patients annually served at the facility undergo an abortion. The calculation for percentage of patients served undergoing an abortion shall be based on the number of individual patients served and not on the number of patient visits or incidents of service.

(i) "Surgery" means the treatment of human beings by a physician, by the use of 1 or more of the following procedures:

(i) Cutting into any part of the body by surgical scalpel, electro-cautery, or other means for diagnosis or the removal or repair of diseased or damaged tissue, organs, tumors, or foreign bodies.

(ii) Reduction of fractures or dislocations of a bone, joint, or bony structure.

(iii) Repair of malformations or body defects resulting from injury, birth defects, or other causes that require cutting and manipulation or suture.

(iv) Instrumentation of the uterine cavity including the procedure commonly known as dilatation and curettage for diagnostic or therapeutic purposes.

(v) Any instrumentation of or injection of any substance into the uterine cavity of a woman for the purpose of terminating a pregnancy.

(vi) Human sterilization procedures.

(vii) Endoscopic procedures.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3803 Terms defined in code**

Rule 3. Terms defined in the code have the same meanings when used in these rules.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3811 Licenses; requirements; applications.**

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Rule 11. (1) A freestanding surgical outpatient facility shall not be established, maintained, or operated without first obtaining a license. The term "freestanding surgical outpatient facility" or other similar term shall not be used on unlicensed places.

(2) An application for a license for a facility shall be made on forms authorized and provided by the department. The application shall include the identity of the owner of the facility.

(3) An application for a license for a facility shall be made and signed by the individual desiring to establish, conduct, or maintain a licensed facility, or by the authorized representative of an individual, co-partnership, corporation, or association desiring to establish, conduct, or maintain a facility. The application shall include a statement of the intended purpose of the facility by specifying the types of surgery to be performed in it. When appropriate, the name of the facility may include a brief statement of the services provided, for example, hand surgery, general surgery, industrial surgery. The brief designation may appear under the name of the facility on an external sign of the building visible to the public if a sign is used.

(4) The owner or governing body may designate a qualified administrator of a facility, who may be the authorized representative, and delegate to the administrator the responsibility for the day-to-day operation in compliance with licensing requirements and such additional policies or regulations as the owner or governing body may adopt.

(5) An authorized representative shall be authorized to make application and amendments to the application to provide the department with all information necessary to the department's determination made in connection with issuance of the license and to enter into agreements with the department in connection with the issuance of the license. A certificate of appointment or other written evidence of the authority vested in the authorized representative shall be attached to the application.

(6) In matters relating to licensing, the department may continue to deal with the authorized representative until notified, in writing, that a new authorized representative has been appointed with equal power, and the former authorized representative is no longer authorized to act.

(7) The department may use any appropriate means of notice and may direct notices of any administrative action pursuant to licensing of a facility to the applicant or the authorized representative either personally or by mail at the address of the facility.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3812 Licenses, permits; issuance.**

Rule 12. (1) If the department determines that a facility complies with the act and these rules, then the department shall issue a license.

(2) The director may issue a provisional license or temporary unrenewable permit in accord with the act and these rules.

(3) The department, upon issuing a provisional license or denying a license, shall give the applicant or the authorized representative written notice of the action and the reasons therefor.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3815 Construction and major alterations of physical facilities.**

Rule 15. (1) The owner or governing body of a proposed freestanding surgical outpatient facility shall submit plans of the proposed facility to the department for review and approval before beginning any construction project; including modernization, addition to, or conversion of, an existing structure. The purpose of the review is to require that the proposed facility is designated and constructed in accord with applicable rules.

(2) A facility shall not be constructed nor major alterations undertaken without first obtaining a construction permit from the department.

(3) A major alteration is deemed to be any extensive structural alteration of an existing building area involving significant changes in the interior configurations or intended use by the moving of partitions of a number of rooms and involving an expenditure in excess of \$50,000.00. Removal of the partitions between 2 adjacent rooms to provide additional room space is not deemed to be a major alteration, unless it costs more than \$50,000.00 and multiple changes are to be made for a changed use of an entire wing or area and extensive plumbing and electrical wiring changes are required.

(4) The department may modify or waive 1 or more of the requirements of these rules regarding construction



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or equipment standards, or both, for a pregnancy termination facility if both of the following provisions apply:

- (a) The freestanding surgical outpatient facility was in existence and operating on December 21, 1999.
- (b) The department makes a determination that the existing construction or equipment, or both, within the facility is adequate to preserve the health and safety of the patients and employees of the facility or that the construction or equipment standards, or both, can be modified to adequately preserve the health and safety of the patients and employees of the facility without meeting the specific requirements of these rules.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3816 Compliance with other laws, codes, and ordinances.**

Rule 16. A facility shall comply with applicable state laws and shall furnish such evidence as the department may require to show compliance with the applicable local laws, codes, and ordinances.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3817 Rescinded.**

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3818 Rescinded.**

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3819 Rescinded.**

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3826 Surgical procedures; medications.**

Rule 26. (1) A surgical procedure performed in a facility shall be done by a licensed physician. A licensed podiatrist or licensed dentist may also perform surgical procedures in a facility under the direction of a physician and in accord with written facility policies and procedures adopted by the governing body or owner.

(2) A qualified physician shall be present on the premises of a facility, including a pregnancy termination facility, through the postoperative period of a patient's stay in the facility.

(3) Medications, diagnostic procedures, and treatments customarily given or performed by nurses or other qualified personnel shall be given only upon written order of the responsible physician, except as follows:

(a) In emergencies, verbal orders of the physician for medications or treatments may be carried out with subsequent notation of such care being entered in the patient's record and signed by the physician.

(b) Standing orders for specific tests and pre- and postoperative care may be established and honored when provided in writing and approved by the medical staff or physician owner or operator of the facility.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3828 Informed consents.**

Rule 28. (1) Except as provided by subrule (2) of this rule, the owner or governing body shall adopt and enforce a policy which will require that informed consents will be obtained from a patient or, in case of an unemancipated minor, the responsible relative or guardian before the performance of surgical procedures, and shall require that signed written consent forms be placed in each patient's chart.

(2) The owner or governing body of a pregnancy termination facility shall adopt and enforce a policy which will require that informed consents be obtained in compliance with section 17015 of the code, MCL 333.17015. In the case of an unemancipated minor, informed consents will also be obtained in compliance with 1990 PA 211, MCL 722.901, et seq.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3832 Transportation services.**

Rule 32. A facility, including a pregnancy termination facility, shall have adequate transportation services immediately available, or have protocols established for accessing 911 emergency transportation services, for emergency patients requiring transfer to a hospital. A facility, including a pregnancy

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termination facility, shall be located not more than 30 minutes normal travel time from the hospital with which written emergency admission arrangements are made. When indicated, a physician or nurse from the facility shall accompany the patient to provide emergency care en route.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3835 Physician qualifications; records.**

Rule 35. (1) A physician, podiatrist, or dentist performing surgery in a facility shall possess adequate qualifications acquired by special training and experience to evaluate the medical, podiatric or dental conditions, potential risks, recognize and adequately treat emergency complications encountered in any procedure undertaken, and perform the procedure in accordance with the usual standards of medical, podiatric, or dental practice.

(2) The facility shall maintain a record of the educational training and experience background of each person granted privileges to perform surgery in a facility.

(3) Except as provided by subrule (4) of this rule, a qualified anesthesiologist or anesthesiologist shall be on the staff and, when medically indicated, participate in the selection of the most appropriate anesthetic agent to be used and be present to supervise or actually administer the anesthetic when procedures are undertaken which require such participation.

(4) A pregnancy termination facility shall secure the services of an anesthesiologist or anesthesiologist for an abortion procedure when a patient requires unconscious sedation through the use of a general anesthetic.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3851 Rescinded.**

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3857 Interior construction.**

Rule 57. (1) A building shall be of safe construction and shall be free from hazards to patients, personnel, or visitors.

(2) Each area of a facility shall be provided with lighting adequate for the use to be made of the location and in compliance with generally recognized lighting standards.

(3) Each area of a facility shall be provided with a type and amount of ventilation commensurate with its use, to minimize the occurrence of transmissible disease, control odors, and contribute to the comfort of patients and personnel.

(4) Corridors, hallways, passageways, and doorways shall be kept free from obstruction at all times.

(5) Floors, walls, and ceilings shall be covered and finished in a manner that permits maintenance of a sanitary environment.

(6) Emergency electrical service shall be permanently installed in the facility, including a pregnancy termination facility, to provide lighting in corridors, exits, procedure rooms, recovery rooms, congregate rooms, nurse stations, and other critical areas. In new construction or renovations, an emergency generator that has an automatic transfer switch or an alternative source of immediate electrical power acceptable to the department shall be provided for lighting and operation of equipment necessary to patient care.

(7) Patient examination, procedure, and recovery rooms shall have a minimum door width of 3 feet.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3866 Clinical facilities.**

Rule 66. (1) A facility shall have enough examination rooms to meet the volume of work to be accomplished, and each room shall provide a minimum of 70 square feet of usable floor space. In new construction or renovations, 80 square feet of usable floor space shall be provided.

(2) An examining room shall have a handwash lavatory within the room, which shall be equipped with a gooseneck inlet and wrist, knee, or foot controls.

(3) A change area shall be provided for patients and provision shall be made for the safe storage of their personal effects.

(4) A facility shall have enough operating or procedure rooms to meet the volume of work to be accomplished, and each room shall provide a minimum of 120 square feet of usable floor space. In new construction, 150

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square feet of usable floor space shall be provided.

(5) Explosive anesthetic agents shall not be used in the rooms.

(6) A supply of oxygen and appropriate masks or other means of administration shall be available in each room.

(7) A room shall be designed to permit the transfer of a patient from the table to a stretcher and to permit sufficient clearance on either side and at the foot of the table with necessary equipment and supplies in place.

(8) A nurse call signal shall be provided from the procedure and examining room to a central control station.

(9) A scrub sink that has a gooseneck outlet shall be available in or adjacent to the procedure rooms.

(10) Single-use soap, scrub brushes, and towels shall be utilized in patient care areas.

(11) The room shall contain a suitable operating table and other equipment necessary for the types of procedures to be performed.

(12) Space for and sterilization equipment shall be provided to process all medical supplies that require sterilization between uses. Equipment shall be capable of accommodating the work load of the facility, and controls acceptable to the director shall be used to check effectiveness and assure sterilization.

(13) As provided by R 325.3868a, the department may waive a specific requirement of this rule as applied to a pregnancy termination facility.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3867 Medication and storage areas.**

Rule 67. (1) A facility shall have enough medication work and storage areas to meet the volume of work to be accomplished.

(2) A shelf or desk shall be provided for the nurse's use in preparing and administering medications and recording information in patients' records and shall be within and readily accessible to all patient care areas for which that nursing station has responsibility.

(3) A medication storage and preparation area equipped with a sink that has a gooseneck inlet and hot and cold water and locked storage for medications shall be provided. This includes adequate space for the storage of medications, fluids, and electrolyte solutions in a safe and sanitary manner.

(4) Space shall be available for the storage of clean linens, equipment, supplies, wheelchairs and stretchers.

(5) A soiled utility room shall be available for temporarily holding waste materials and cleaning of items to be reused.

(6) A janitor's closet that has a service sink shall be available.

(7) As provided by R 325.3868a, the department may waive a specific requirement of this rule as applied to a pregnancy termination facility.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3868 Patient observation and recovery areas.**

Rule 68. (1) Patient observation and recovery areas shall be provided in sufficient numbers to accommodate the patient load with a planned minimum of a 3-hour recovery period and longer when necessary for individual patients. The areas shall be comfortably furnished and adequately equipped for the patient's safe postoperative observation and recovery.

(2) A facility shall provide at least 1 recovery room equipped for use by and observation of patients requiring recumbent care post-surgically. A minimum of 1 hospital-type bed or wheeled recovery room stretcher shall be provided for each 10 post-surgical patients to be cared for at any one time.

(3) Single bed/stretcher recovery rooms shall provide a minimum of 100 square feet of usable floor space.

(4) Multiple bed/stretcher recovery rooms shall provide a minimum of 80 square feet of floor space per bed or stretcher.

(5) A recovery room shall be designed to provide a minimum of 3 feet between beds or stretchers and 4 feet of clearance at the foot of the bed or stretcher.

(6) Comfortably furnished congregate rooms equipped with either reclining or lounge-type chairs or cots may be provided for the post-surgical observation of patients not needing bed or stretcher accommodations. Each congregate-type room shall provide a minimum of 50 square feet of usable floor space for each patient to be accommodated. A congregate room shall not contain accommodations for more than 12 patients.

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(7) A toilet and lavatory shall be provided for each 6 recovery patients at a minimum. One or more bathing facilities are recommended.

(8) Corridors used for patient entry, egress, and surgical care areas in a facility shall have a minimum width of 6 feet.

(9) As provided by R 325.3868a, the department may waive a specific requirement of this rule as applied to a pregnancy termination facility.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**R 325.3868a Waiver of certain requirements.**

Rule 68a. (1) Pursuant to R 325.3815(4), the department may waive a specific requirement of R 325.3866, R 325.3867, or R 325.3868 as applied to a pregnancy termination facility if it reasonably determines the facility construction, size, and equipment of a room, area, or equipment utilized for purposes of medication preparation or storage, sanitary storage, or facility maintenance are adequate to protect the health and safety of the patients and employees of the facility, or that the construction, equipment or maintenance standards can be modified to adequately preserve the health and safety of the patients and employees of the facility without meeting the specific requirements of these rules.

(2) A pregnancy termination facility shall submit a request for variance in writing at the time of application for a license.

(3) The decision of the department, including any qualification under which the variance is granted, shall be sent to the pregnancy termination facility and placed in the facility record.

(4) The variance may remain in effect for as long as the pregnancy termination facility continues to comply with the conditions of the variance or may be time-limited.

History: 1954 ACS 86, Eff. Feb. 10, 1976; 1979 AC; 2001 MR 10, Eff. Jun. 7, 2001.

**OFFICE OF SUBSTANCE ABUSE SERVICES**  
**SUBSTANCE ABUSE SERVICES PROGRAMS**

**R 325.4001**

**Source:** 1997 AACS.

**R 325.4002**

**Source:** 1997 AACS.

**R 325.4003**

**Source:** 1997 AACS.

**R 325.4004**

**Source:** 1997 AACS.

**R 325.4005**

**Source:** 1997 AACS.

**R 325.4006**

**Source:** 1997 AACS.

**R 325.4007**

**Source:** 1997 AACS.

**R 325.4008**

**Source:** 1997 AACS.

**R 325.4009**

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**Source:** 1997 AACS.

**R 325.4010**

**Source:** 1997 AACS.

**R 325.4011**

**Source:** 1997 AACS.

**R 325.4012**

**Source:** 1997 AACS.

**R 325.4013**

**Source:** 1997 AACS.

**R 325.4014**

**Source:** 1997 AACS.

**R 325.4015**

**Source:** 1997 AACS.

**R 325.4016**

**Source:** 1997 AACS.

**R 325.4017**

**Source:** 1997 AACS.

**R 325.4018**

**Source:** 1997 AACS.

**R 325.4019**

**Source:** 1997 AACS.

**R 325.4021**

**Source:** 1997 AACS.

**R 325.4022**

**Source:** 1997 AACS.

**R 325.4023**

**Source:** 1997 AACS.

**R 325.4024**

**Source:** 1997 AACS.

**R 325.4025**

**Source:** 1997 AACS.

**R 325.4026**

**Source:** 1997 AACS.

**R 325.4027**

**Source:** 1997 AACS.

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**R 325.4028**

**Source:** 1997 AACs.

**R 325.4031**

**Source:** 1997 AACs.

**R 325.4032**

**Source:** 1997 AACs.

**R 325.4033**

**Source:** 1997 AACs.

**R 325.4034**

**Source:** 1997 AACs.

**R 325.4035**

**Source:** 1997 AACs.

**R 325.4036**

**Source:** 1997 AACs.

**R 325.4037**

**Source:** 1997 AACs.

**R 325.4038**

**Source:** 1997 AACs.

**R 325.4041**

**Source:** 1997 AACs.

**R 325.4042**

**Source:** 1997 AACs.

**R 325.4043**

**Source:** 1997 AACs.

**R 325.4044**

**Source:** 1997 AACs.

**R 325.4045**

**Source:** 1997 AACs.

**R 325.4046**

**Source:** 1997 AACs.

**R 325.4047**

**Source:** 1997 AACs.

**R 325.4048**

**Source:** 1997 AACs.

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**R 325.4051**  
**Source:** 1997 AACS.

**R 325.4052**  
**Source:** 1997 AACS.

**R 325.4053**  
**Source:** 1997 AACS.

**R 325.4054**  
**Source:** 1997 AACS.

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**R 325.4056**  
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**R 325.4057**  
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**R 325.4058**  
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**R 325.4061**  
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**R 325.4062**  
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**R 325.4063**  
**Source:** 1997 AACS.

**R 325.4064**  
**Source:** 1997 AACS.

**R 325.4065**  
**Source:** 1997 AACS.

**R 325.4066**  
**Source:** 1997 AACS.

**R 325.4067**  
**Source:** 1997 AACS.

**R 325.4071**  
**Source:** 1997 AACS.

**R 325.4081**  
**Source:** 1997 AACS.

**R 325.4082**

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**Source:** 1997 AACS.

**R 325.4083**

**Source:** 1997 AACS.

**R 325.4084**

**Source:** 1997 AACS.

**PROGRAM MATCH REQUIREMENTS**

**R 325.4151**

**Source:** 1981 AACS.

**R 325.4152**

**Source:** 1981 AACS.

**R 325.4153**

**Source:** 1981 AACS.

**R 325.4154**

**Source:** 1997 AACS.

**R 325.4155**

**Source:** 1981 AACS.

**R 325.4156**

**Source:** 1981 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**DIVISION OF RADIOLOGICAL HEALTH**

**IONIZING RADIATION**

**PART 14. MAMMOGRAPHY**

**GENERAL PROVISIONS**

**R 325.5601**

**Source:** 1993 AACS.

**R 325.5602**

**Source:** 1993 AACS.

**R 325.5603**

**Source:** 1993 AACS.

**MAMMOGRAPHY AUTHORIZATION**

**R 325.5605**

**Source:** 1993 AACS.

**R 325.5606**

**Source:** 1993 AACS.

**R 325.5607**

**Source:** 1993 AACS.



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**R 325.5608**

**Source:** 1993 AACS.

**R 325.5609**

**Source:** 1993 AACS.

**R 325.5610**

**Source:** 1993 AACS.

**R 325.5611**

**Source:** 1993 AACS.

**R 325.5612**

**Source:** 1993 AACS.

**R 325.5613**

**Source:** 1993 AACS.

**MAMMOGRAPHY SUPERVISOR**

**R 325.5617**

**Source:** 1993 AACS.

**R 325.5618**

**Source:** 1993 AACS.

**R 325.5619**

**Source:** 1993 AACS.

**OPERATORS OF MAMMOGRAPHY EQUIPMENT**

**R 325.5621**

**Source:** 1993 AACS.

**R 325.5622**

**Source:** 1993 AACS.

**R 325.5623**

**Source:** 1993 AACS.

**R 325.5624**

**Source:** 1993 AACS.

**R 325.5625**

**Source:** 1993 AACS.

**RADIATION PHYSICIST**

**R 325.5631**

**Source:** 1993 AACS.

**R 325.5632**

**Source:** 1993 AACS.

**R 325.5633**

**Source:** 1993 AACS.

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**X-RAY EQUIPMENT**

**R 325.5637**  
**Source:** 1993 AACS.

**R 325.5638**  
**Source:** 1993 AACS.

**R 325.5639**  
**Source:** 1993 AACS.

**R 325.5640**  
**Source:** 1993 AACS.

**R 325.5641**  
**Source:** 1993 AACS.

**R 325.5642**  
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**R 325.5643**  
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**R 325.5644**  
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**R 325.5646**  
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**R 325.5647**  
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**R 325.5648**  
**Source:** 1993 AACS.

**R 325.5649**  
**Source:** 1993 AACS.

**R 325.5650**  
**Source:** 1993 AACS.

**R 325.5651**  
**Source:** 1993 AACS.

**R 325.5652**  
**Source:** 1993 AACS.

**R 325.5655**  
**Source:** 1993 AACS.

**R 325.5656**  
**Source:** 1993 AACS.

**QUALITY CONTROL**

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**R 325.5659**  
**Source:** 1993 AACS.

**R 325.5660**  
**Source:** 1993 AACS.

**R 325.5661**  
**Source:** 1993 AACS.

**R 325.5662**  
**Source:** 1993 AACS.

**R 325.5663**  
**Source:** 1993 AACS.

**R 325.5664**  
**Source:** 1993 AACS.

**R 325.5665**  
**Source:** 1993 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION  
RADIOACTIVE MATERIAL TRANSPORTATION**

**R 325.5801**  
**Source:** 1997 AACS.

**R 325.5802**  
**Source:** 1997 AACS.

**R 325.5803**  
**Source:** 1997 AACS.

**R 325.5804**  
**Source:** 1997 AACS.

**R 325.5805**  
**Source:** 1997 AACS.

**R 325.5806**  
**Source:** 1997 AACS.

**R 325.5807**  
**Source:** 1997 AACS.

**R 325.5808**  
**Source:** 1997 AACS.

**R 325.5809**  
**Source:** 1997 AACS.

**R 325.5810**  
**Source:** 1997 AACS.

**BUREAU OF HEALTH CARE ADMINISTRATION**

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**FREESTANDING SURGICAL OUTPATIENT FACILITIES  
DIFFERENTIATED FROM PRIVATE PRACTICE OFFICES**

**R 325.6001**

**Source:** 1980 AACS.

**R 325.6002**

**Source:** 1980 AACS.

**DEPARTMENT OF COMMUNITY HEALTH  
AND INSURANCE BUREAU  
HEALTH MAINTENANCE ORGANIZATIONS  
PART 1. GENERAL PROVISIONS**

**R 325.6101**

**Source:** 1988 AACS.

**R 325.6105**

**Source:** 1988 AACS.

**R 325.6110**

**Source:** 1988 AACS.

**R 325.6115**

**Source:** 1988 AACS.

**R 325.6120**

**Source:** 1997 AACS.

**R 325.6125**

**Source:** 1988 AACS.

**R 325.6130**

**Source:** 1988 AACS.

**R 325.6135**

**Source:** 1988 AACS.

**PART 2. STATE ADMINISTRATION**

**R 325.6201**

**Source:** 1997 AACS.

**R 325.6205**

**Source:** 1988 AACS.

**R 325.6210**

**Source:** 1988 AACS.

**R 325.6215**

**Source:** 1997 AACS.

**R 325.6220**

**Source:** 1997 AACS.

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**R 325.6225**  
**Source:** 1997 AACS.

**R 325.6230**  
**Source:** 1988 AACS.

**R 325.6235**  
**Source:** 1988 AACS.

**R 325.6240**  
**Source:** 1988 AACS.

**R 325.6245**  
**Source:** 1988 AACS.

**R 325.6250**  
**Source:** 1997 AACS.

**R 325.6255**  
**Source:** 1997 AACS.

**R 325.6260**  
**Source:** 1997 AACS.

**R 325.6265**  
**Source:** 1997 AACS.

**R 325.6270**  
**Source:** 1988 AACS.

**R 325.6275**  
**Source:** 1988 AACS.

**R 325.6280**  
**Source:** 1997 AACS.

**R 325.6285**  
**Source:** 1988 AACS.

**R 325.6290**  
**Source:** 1988 AACS.

**PART 3. BUSINESS AND OPERATIONAL REQUIREMENTS**

**R 325.6301**  
**Source:** 1988 AACS.

**R 325.6305**  
**Source:** 1988 AACS.

**R 325.6310**  
**Source:** 1988 AACS.

**R 325.6315**  
**Source:** 1988 AACS.

**R 325.6320**  
**Source:** 1997 AACS.

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**R 325.6325**  
**Source:** 1997 AACS.

**R 325.6330**  
**Source:** 1988 AACS.

**R 325.6335**  
**Source:** 1988 AACS.

**R 325.6340**  
**Source:** 1988 AACS.

**R 325.6345**  
**Source:** 1988 AACS.

**R 325.6350**  
**Source:** 1988 AACS.

**R 325.6355**  
**Source:** 1988 AACS.

**R 325.6360**  
**Source:** 1988 AACS.

**R 325.6365**  
**Source:** 1988 AACS.

**PART 4. SUBSCRIBER CONTRACTS, COVERAGE, AND RELATED REQUIREMENTS**

**R 325.6401**  
**Source:** 1988 AACS.

**R 325.6405**  
**Source:** 1988 AACS.

**R 325.6410**  
**Source:** 1988 AACS.

**R 325.6415**  
**Source:** 1988 AACS.

**R 325.6420**  
**Source:** 1988 AACS.

**R 325.6425**  
**Source:** 1988 AACS.

**R 325.6430**  
**Source:** 1988 AACS.

**PART 5. MARKETING AND ENROLLMENT**

**R 325.6501**  
**Source:** 1988 AACS.

**R 325.6505**  
**Source:** 1988 AACS.

**R 325.6510**

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**Source:** 1988 AACS.

**R 325.6515**

**Source:** 1997 AACS.

**PART 6. STANDARDS FOR SERVICES, STAFFING, QUALITY ASSURANCE,  
AND UTILIZATION REVIEW**

**R 325.6601**

**Source:** 1988 AACS.

**R 325.6605**

**Source:** 1988 AACS.

**R 325.6610**

**Source:** 1988 AACS.

**R 325.6615**

**Source:** 1988 AACS.

**R 325.6620**

**Source:** 1988 AACS.

**R 325.6625**

**Source:** 1988 AACS.

**R 325.6635**

**Source:** 1988 AACS.

**PART 7. FACILITY STANDARDS**

**R 325.6701**

**Source:** 1988 AACS.

**R 325.6702**

**Source:** 1988 AACS.

**R 325.6705**

**Source:** 1997 AACS.

**R 325.6710**

**Source:** 1991 AACS.

**R 325.6715**

**Source:** 1988 AACS.

**R 325.6720**

**Source:** 1988 AACS.

**R 325.6725**

**Source:** 1988 AACS.

**R 325.6730**

**Source:** 1988 AACS.

**R 325.6735**

**Source:** 1988 AACS.

**R 325.6740**

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**Source:** 1988 AACS.

**R 325.6745**

**Source:** 1988 AACS.

**R 325.6750**

**Source:** 1988 AACS.

**R 325.6755**

**Source:** 1988 AACS.

**R 325.6760**

**Source:** 1997 AACS.

**R 325.6765**

**Source:** 1997 AACS.

**R 325.6770**

**Source:** 1997 AACS.

**R 325.6775**

**Source:** 1997 AACS.

**R 325.6780**

**Source:** 1988 AACS.

**R 325.6785**

**Source:** 1988 AACS.

**R 325.6790**

**Source:** 1988 AACS.

**R 325.6795**

**Source:** 1988 AACS.

**PART 8. ENROLLEE CLINICAL RECORDS; REPORTS AND INSPECTIONS**

**R 325.6801**

**Source:** 1988 AACS.

**R 325.6805**

**Source:** 1988 AACS.

**R 325.6810**

**Source:** 1988 AACS.

**R 325.6815**

**Source:** 1988 AACS.

**R 325.6820**

**Source:** 1997 AACS.

**R 325.6825**

**Source:** 1988 AACS.



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**R 325.6830**

**Source:** 1988 AACS.

**R 325.6835**

**Source:** 1988 AACS.

**PART 9. HEALTH MAINTENANCE ORGANIZATION INCLUSION IN HEALTH BENEFIT PLANS**

**R 325.6901**

**Source:** 1988 AACS.

**R 325.6905**

**Source:** 1988 AACS.

**R 325.6910**

**Source:** 1988 AACS.

**R 325.6925**

**Source:** 1988 AACS.

**R 325.6930**

**Source:** 1988 AACS.

**R 325.6935**

**Source:** 1988 AACS.

**R 325.6950**

**Source:** 1988 AACS.

**R 325.6955**

**Source:** 1988 AACS.

**R 325.6960**

**Source:** 1988 AACS.

**R 325.6965**

**Source:** 1997 AACS.

**DEPARTMENT OF COMMUNITY HEALTH**  
**OFFICE OF VITAL AND HEALTH STATISTICS**  
**DISINTERMENT—REINTERMENT**

**R 325.8051**

**Source:** 1982 AACS.

**R 325.8052**

**Source:** 1982 AACS.

**R 325.8053**

**Source:** 1982 AACS.

**R 325.8054**

**Source:** 1982 AACS.

**R 325.8055**

**Source:** 1982 AACS.

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**R 325.8056**  
**Source:** 1982 AACS.

**R 325.8057**  
**Source:** 1982 AACS.

**LABORATORY AND EPIDEMIOLOGICAL SERVICES ADMINISTRATION  
DISEASE SURVEILLANCE AND CONTROL**

**R 325.9001**  
**Source:** 1997 AACS.

**R 325.9002**  
**Source:** 1997 AACS.

**R 325.9003**  
**Source:** 1997 AACS.

**R 325.9004**  
**Source:** 1997 AACS.

**R 325.9005**  
**Source:** 1997 AACS.

**R 325.9006**  
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**R 325.9007**  
**Source:** 1997 AACS.

**R 325.9008**  
**Source:** 1997 AACS.

**R 325.9009**  
**Source:** 1997 AACS.

**R 325.9010**  
**Source:** 1997 AACS.

**R 325.9011**  
**Source:** 1997 AACS.

**R 325.9012**  
**Source:** 1981 AACS.

**BUREAU OF LABORATORY AND EPIDEMIOLOGICAL SERVICES  
DEFINITION OF "INFECTIOUS AGENT"**

**R 325.9031**  
**Source:** 1987 AACS.

**DIVISION OF RESEARCH AND DEVELOPMENT  
CHRONIC DISEASE PREVENTION AND CONTROL LIST**

**R 325.9041**

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**Source:** 1989 AACS.

**OFFICE OF THE STATE REGISTRAR AND  
CENTER FOR HEALTH STATISTICS**

**CANCER REPORTING**

**R 325.9051**

**Source:** 1985 AACS.

**R 325.9052**

**Source:** 1985 AACS.

**R 325.9053**

**Source:** 1985 AACS.

**R 325.9054**

**Source:** 1985 AACS.

**R 325.9055**

**Source:** 1985 AACS.

**R 325.9056**

**Source:** 1985 AACS.

**R 325.9057**

**Source:** 1985 AACS.

**CENTER FOR HEALTH PROMOTION**

**SPINAL CORD AND TRAUMATIC BRAIN INJURY REPORTING**

**R 325.9061**

**Source:** 1993 AACS.

**R 325.9062**

**Source:** 1993 AACS.

**R 325.9063**

**Source:** 1993 AACS.

**R 325.9064**

**Source:** 1993 AACS.

**R 325.9065**

**Source:** 1993 AACS.

**R 325.9066**

**Source:** 1993 AACS.

**R 325.9067**

**Source:** 1993 AACS.

**BIRTH DEFECTS REPORTING**

**R 325.9071**

**Source:** 1991 AACS.

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**R 325.9072**  
**Source:** 1991 AACS.

**R 325.9073**  
**Source:** 1991 AACS.

**R 325.9074**  
**Source:** 1991 AACS.

**R 325.9075**  
**Source:** 1991 AACS.

**R 325.9076**  
**Source:** 1991 AACS.

**HEALTH LEGISLATION AND POLICY DEVELOPMENT  
BLOOD LEAD ANALYSIS REPORTING**

**R 325.9081**  
**Source:** 1997 AACS.

**R 325.9082**  
**Source:** 1997 AACS.

**R 325.9083**  
**Source:** 1997 AACS.

**R 325.9084**  
**Source:** 1997 AACS.

**R 325.9085**  
**Source:** 1997 AACS.

**R 325.9086**  
**Source:** 1997 AACS.

**R 325.9087**  
**Source:** 1997 AACS.

**BUREAU OF HEALTH SYSTEMS  
CERTIFICATE OF NEED**

**PART 1. GENERAL PROVISIONS**

**R 325.9101**  
**Source:** 1996 AACS.

**R 325.9103**  
**Source:** 1996 AACS.

**R 325.9105**  
**Source:** 1996 AACS.

**R 325.9109**  
**Source:** 1996 AACS.

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**R 325.9121**

**Source:** 1996 AACS.

**R 325.9123**

**Source:** 1996 AACS.

**R 325.9125**

**Source:** 1996 AACS.

**PART 2. LETTERS OF INTENT; APPLICATIONS; REVIEWS**

**R 325.9201**

**Source:** 1996 AACS.

**R 325.9203**

**Source:** 1996 AACS.

**R 325.9204**

**Source:** 1996 AACS.

**R 325.9205**

**Source:** 1996 AACS.

**R 325.9206**

**Source:** 1996 AACS.

**R 325.9207**

**Source:** 1996 AACS.

**R 325.9208**

**Source:** 1996 AACS.

**R 325.9215**

**Source:** 1996 AACS.

**R 325.9227**

**Source:** 1996 AACS.

**R 325.9229**

**Source:** 1996 AACS.

**PART 3. APPROVAL AND ISSUANCE; DISAPPROVAL**

**R 325.9301**

**Source:** 1996 AACS.

**R 325.9303**

**Source:** 1996 AACS.

**PART 4. TERMS AND CONDITIONS**

**R 325.9401**

**Source:** 1986 AACS.

**R 325.9403**

**Source:** 1996 AACS.

**R 325.9413**

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**Source:** 1996 AACS.

**R 325.9415**

**Source:** 1996 AACS.

**R 325.9417**

**Source:** 1996 AACS.

**R 325.9419**

**Source:** 1996 AACS.

**PART 5. ADMINISTRATIVE HEARINGS**

**R 325.9501**

**Source:** 1996 AACS.

**R 325.9503**

**Source:** 1996 AACS.

**R 325.9505**

**Source:** 1986 AACS.

**R 325.9507**

**Source:** 1996 AACS.

**R 325.9509**

**Source:** 1996 AACS.

**R 325.9511**

**Source:** 1996 AACS.

**R 325.9513**

**Source:** 1996 AACS.

**R 325.9515**

**Source:** 1996 AACS.

**R 325.9517**

**Source:** 1996 AACS.

**R 325.9519**

**Source:** 1996 AACS.

**R 325.9521**

**Source:** 1996 AACS.

**R 325.9523**

**Source:** 1996 AACS.

**R 325.9525**

**Source:** 1996 AACS.

**DEPARTMENT OF COMMUNITY HEALTH**

**HEALTH LEGISLATION AND POLICY DEVELOPMENT**

**LEAD HAZARD REMEDIATION**

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- R 325.9901**  
Source: 1998-2000 AACS.
- R 325.9902**  
Source: 1998-2000 AACS.
- R 325.9903**  
Source: 1998-2000 AACS.
- R 325.9904**  
Source: 1998-2000 AACS.
- R 325.9905**  
Source: 1998-2000 AACS.
- R 325.9906**  
Source: 1998-2000 AACS.
- R 325.9907**  
Source: 1998-2000 AACS.
- R 325.9908**  
Source: 1998-2000 AACS.
- R 325.9909**  
Source: 1998-2000 AACS.
- R 325.9910**  
Source: 1998-2000 AACS.
- R 325.9911**  
Source: 1998-2000 AACS.
- R 325.9912**  
Source: 1998-2000 AACS.
- R 325.9913**  
Source: 1998-2000 AACS.
- R 325.9914**  
Source: 1998-2000 AACS.
- R 325.9915**  
Source: 1998-2000 AACS.
- R 325.9916**  
Source: 1998-2000 AACS.
- R 325.9917**  
Source: 1998-2000 AACS.
- R 325.9918**  
Source: 1998-2000 AACS.
- R 325.9919**

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**Source:** 1998-2000 AACS.

**R 325.9920**

**Source:** 1998-2000 AACS.

**R 325.9921**

**Source:** 1998-2000 AACS.

**R 325.9922**

**Source:** 1998-2000 AACS.

**R 325.9923**

**Source:** 1998-2000 AACS.

**R 325.9924**

**Source:** 1998-2000 AACS.

**R 325.9925**

**Source:** 1998-2000 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
HEALTH SERVICES ADMINISTRATION  
SUPPLYING WATER TO THE PUBLIC  
PART 1. GENERAL PROVISIONS**

**R 325.10102**

**Source:** 1998-2000 AACS.

**R 325.10103**

**Source:** 1998-2000 AACS.

**R 325.10104**

**Source:** 1998-2000 AACS.

**R 325.10105**

**Source:** 1998-2000 AACS.

**R 325.10106**

**Source:** 1998-2000 AACS.

**R 325.10107**

**Source:** 1998-2000 AACS.

**R 325.10108**

**Source:** 1998-2000 AACS.

**R 325.10109**

**Source:** 1998-2000 AACS.

**R 325.10110**

**Source:** 1998-2000 AACS.

**R 325.10111**



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**Source:** 1998-2000 AACS.

**R 325.10112**

**Source:** 1998-2000 AACS.

**R 325.10113**

**Source:** 1998-2000 AACS.

**PART 3. VARIANCES AND EXEMPTIONS**

**R 325.10303**

**Source:** 1991 AACS.

**R 325.10304**

**Source:** 1991 AACS.

**R 325.10306**

**Source:** 1991 AACS.

**R 325.10308a**

**Source:** 1984 AACS.

**R 325.10308b**

**Source:** 1998-2000 AACS.

**PART 4. PUBLIC NOTIFICATION AND PUBLIC EDUCATION**

**R 325.10401**

**Source:** 1994 AACS.

**R 325.10402**

**Source:** 1989 AACS.

**R 325.10403**

**Source:** 1993 AACS.

**R 325.10404**

**Source:** 1991 AACS.

**R 325.10405**

**Source:** 1989 AACS.

**R 325.10406**

**Source:** 1989 AACS.

**R 325.10407**

**Source:** 1994 AACS.

**R 325.10409**

**Source:** 1989 AACS.

**R 325.10410**

**Source:** 1998-2000 AACS.

**R 325.10411 Annual consumer confidence reporting; purpose and applicability.**

Rule 411.(1) R 325.10411 to R 325.10415 establish the minimum requirements for the content, recordkeeping, and delivery of annual consumer confidence reports that community supplies shall prepare and deliver to their customers. These reports shall contain information on the quality of the water delivered

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by the supplies and characterize the risks, if any, from exposure to contaminants detected in the drinking water in an accurate and understandable manner.

(2) R 325.10411 to R 325.10415 apply only to community supplies.

(3) For the purpose of R 325.10411 to R 325.10415, "report" means annual consumer confidence report.

(4) For the purpose of R 325.10411 to R 325.10415, "customers" are defined as billing units or service connections to which water is delivered by a community supply.

(5) For the purpose of R 325.10411 to R 325.10420, "detected" means at or above the levels prescribed by R 325.10605.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10412 Annual consumer confidence reporting; effective dates.**

Rule 412.(1) Each existing community supply shall deliver its report by July 1 annually. Each report shall contain data collected during, or before, the previous calendar year.

(2) A new community supply shall deliver its first report by July 1 of the year after its first full calendar year in operation and then by July 1 annually.

(3) A community supply that sells water to another community supply shall deliver the applicable information required in R 325.10413 to the buyer supply by either of the following dates:

(a) April 1 annually.

(b) A date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10413 Annual consumer confidence reporting; content of reports.**

Rule 413. (1) Each community supply shall provide to its customers an annual report that contains the information specified in this rule and the information specified in R 325.10414.

(2) Each report shall identify the source or sources of the water delivered by the community supply by providing information on the following:

(a) The type of the water; for example, surface water or ground water.

(b) The commonly used name, if any, and location of the body or bodies of water.

(3) If a source water assessment has been completed, then the report shall notify consumers of the availability of the information and the means to obtain it. In addition, a community supply is encouraged to highlight in the report significant sources of contamination in the source water area if the supply has readily available information. If a community supply has received a source water assessment from the department, then the report shall include a brief summary of the supply's susceptibility to potential sources of contamination, using language provided by the department or written by the operator.

(4) Each report shall include the following definitions:

(a) "Maximum Contaminant Level Goal" or "MCLG" means the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

(b) "Maximum Contaminant Level" or "MCL" means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

(5) A report for a community supply operating under a variance or an exemption issued under section 20 of the act shall include the definition for variances and exemptions. "Variances and exemptions" means state or EPA permission not to meet an MCL or a treatment technique under certain conditions.

(6) A report that contains data on a contaminant for which EPA has set a treatment technique or an action level shall include one or both of the following definitions as applicable:

(a) "Treatment Technique" or "TT" means a required process intended to reduce the level of a contaminant in drinking water.

(b) "Action Level" or "AL" means the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water supply shall follow.

(7) The report shall include the following information on detected contaminants subject to mandatory monitoring, except *Cryptosporidium*.

(a) This subrule applies to all of the following contaminants:

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- (i) Contaminants subject to an MCL, action level, or treatment technique known as regulated contaminants.
- (ii) Contaminants for which monitoring is required by R 325.10717b known as unregulated contaminants.
- (iii) Disinfection by-products or microbial contaminants for which monitoring is required by 40 C.F.R. part 141, §§141.142 and 141.143, except as provided under subrule (8)(a) of this rule, and which are detected in the finished water.
- (b) The data relating to the contaminants specified in this subrule shall be displayed in one table or in several adjacent tables. Any additional monitoring results that a community supply chooses to include in its report shall be displayed separately.
- (c) The data shall be derived from data collected to comply with EPA and state monitoring and analytical requirements during the previous calendar year with the following exceptions:
  - (i) If a community supply is allowed to monitor for regulated contaminants less often than once a year, then the table or tables shall include the date and results of the most recent sampling and the report shall include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. Data older than 5 years need not be included.
  - (ii) Results of monitoring in compliance with 40 C.F.R. part 141, §§141.142 and 141.143 need only be included for 5 years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.
  - (d) For detected regulated contaminants in table 4.1, the table or tables shall contain all of the following information:
    - (i) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in table 4.1).
    - (ii) The MCLG for that contaminant expressed in the same units as the MCL.
    - (iii) If there is not an MCL for a detected contaminant, then the table shall indicate that there is a treatment technique, or specify the action level, applicable to that contaminant. The report shall also include the definitions for treatment technique and/or action level, as appropriate, and specified in subrule (6) of this rule.
    - (iv) For contaminants subject to an MCL, except turbidity and total coliforms, the table shall indicate the highest contaminant level used to determine compliance with a national primary drinking water regulation (NPDWR) and the range of detected levels as follows:
      - (A) If compliance with the MCL is determined annually or less frequently, then the table shall indicate the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.
      - (B) If compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point, then the table shall indicate the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL.
      - (C) If compliance with the MCL is determined on a supply-wide basis by calculating a running annual average of all samples at all sampling points, then the table shall indicate the average and range of detection expressed in the same units as the MCL.

**TABLE 4.1**

Converting MCL Compliance Values for  
Consumer Confidence Reports

Key:

AL=Action Level

MCL=Maximum Contaminant Level

MCLG=Maximum Contaminant Level Goal

MFL=million fibers per liter

mrem/year=millirems per year (a measure of radiation absorbed by the body)

NTU=Nephelometric Turbidity Units

pCi/l=picocuries per liter (a measure of radioactivity)

ppm=parts per million, or milligrams per liter (mg/l)

ppb=parts per billion, or micrograms per liter (µg/l)

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ppt=parts per trillion, or nanograms per liter  
ppq=parts per quadrillion, or picograms per liter  
TT=Treatment Technique

Contaminant	MCL in Compliance Units (mg/L)	Multiply By...	MCL in CCR Units	MCLG in CCR Units
<b>Microbiological Contaminants</b>				
1.Total coliform bacteria			(Supplies that collect 40 or more samples per month) 5% of monthly samples are positive; (supplies that collect fewer than 40 samples per month) 1 positive monthly sample.	0
2.Fecal coliform and E. coli			A routine sample and a repeat sample are total coliform positive, and 1 is also fecal coliform or E. coli positive.	0
3. Turbidity			TT (NTU)	n/a
<b>Radioactive Contaminants</b>				
4. Beta/photon emitters	4 mrem/yr		4 mrem/yr	0
5. Alpha emitters	15 pCi/l		15 pCi/l	0
6. Combined radium	5 pCi/l		5 pCi/l	0
<b>Inorganic contaminants</b>				
7. Antimony	.006	1000	6 ppb	6
8. Arsenic	.05	1000	50 ppb	n/a
9. Asbestos	7 MFL		7 MFL	7
10. Barium	2		2 ppm	2
11. Beryllium	.004	1000	4 ppb	4
12. Cadmium	.005	1000	5 ppb	5
13. Chromium	.1	1000	100 ppb	100
14. Copper	AL=1.3		AL=1.3 ppm	1.3
15. Cyanide	.2	1000	200 ppb	200
16. Fluoride	4		4 ppm	4
17. Lead	AL=.015	1000	AL=15 ppb	0
18. Mercury (inorganic)	.002	1000	2 ppb	2
19. Nitrate (as Nitrogen)	10		10 ppm	10
20. Nitrite (as Nitrogen)	1		1 ppm	1
21. Selenium	.05	1000	50 ppb	50
22. Thallium	.002	1000	2 ppb	.5

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Contaminant	MCL in Compliance Units (mg/L)	Multiply By...	MCL in CCR Units	MCLG in CCR Units
<b>Synthetic Organic Contaminants Including Pesticides and Herbicides</b>				
23. 2,4-D	.07	1000	70 ppb	70
24. 2,4,5-TP (Silvex)	.05	1000	50 ppb	50
25. Acrylamide			TT	0
26. Alachlor	.002	1000	2 ppb	0
27. Atrazine	.003	1000	3 ppb	3
28. Benzo(a)pyrene (PAH)	.0002	1,000,000	200 ppt	0
29. Carbofuran	.04	1000	40 ppb	40
30. Chlordane	.002	1000	2 ppb	0
31. Dalapon	.2	1000	200 ppb	200
32. Di(2-ethylhexyl)adipate	.4	1000	400 ppb	400
33. Di(2-ethylhexyl)phthalate	.006	1000	6 ppb	0
34. Dibromochloropropane	.0002	1,000,000	200 ppt	0
35. Dinoseb	.007	1000	7 ppb	7
36. Diquat	.02	1000	20 ppb	20
37. Dioxin (2,3,7,8-TCDD)	.00000003	1,000,000,000	30 ppq	0
38. Endothall	.1	1000	100 ppb	100
39. Endrin	.002	1000	2 ppb	2
40. Epichlorohydrin			TT	0
41. Ethylene dibromide	.00005	1,000,000	50 ppt	0
42. Glyphosate	.7	1000	700 ppb	700
43. Heptachlor	.0004	1,000,000	400 ppt	0
44. Heptachlor epoxide	.0002	1,000,000	200 ppt	0
45. Hexachlorobenzene	.001	1000	1 ppb	0
46. Hexachloro-cyclopentadiene	.05	1000	50 ppb	50
47. Lindane	.0002	1,000,000	200 ppt	200
48. Methoxychlor	.04	1000	40 ppb	40
49. Oxamyl (Vydate)	.2	1000	200 ppb	200
50. PCBs (Polychlorinated biphenyls)	.0005	1,000,000	500 ppt	0
51. Pentachlorophenol	.001	1000	1 ppb	0
52. Picloram	.5	1000	500 ppb	500
53. Simazine	.004	1000	4 ppb	4
54. Toxaphene	.003	1000	3 ppb	0
<b>Volatile Organic Contaminants</b>				
55. Benzene	.005	1000	5 ppb	0
56. Carbon tetrachloride	.005	1000	5 ppb	0
57. Chlorobenzene	.1	1000	100 ppb	100
58. o-Dichlorobenzene	.6	1000	600 ppb	600
59. p-Dichlorobenzene	.075	1000	75 ppb	75
60. 1,2-Dichloroethane	.005	1000	5 ppb	0
61. 1,1-Dichloroethylene	.007	1000	7 ppb	7
62. cis-1,2-Dichloroethylene	.07	1000	70 ppb	70
63. trans-1,2-	.1	1000	100 ppb	100

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<b>Contaminant</b>	<b>MCL in Compliance Units (mg/L)</b>	<b>Multiply By...</b>	<b>MCL in CCR Units</b>	<b>MCLG in CCR Units</b>
Dichloroethylene				
64. Dichloromethane	.005	1000	5 ppb	0
65. 1,2-Dichloropropane	.005	1000	5 ppb	0
66. Ethylbenzene	.7	1000	700 ppb	700
67. Styrene	.1	1000	100 ppb	100
68. Tetrachloroethylene	.005	1000	5 ppb	0
69. 1,2,4-Trichlorobenzene	.07	1000	70 ppb	70
70. 1,1,1-Trichloroethane	.2	1000	200 ppb	200
71. 1,1,2-Trichloroethane	.005	1000	5 ppb	3
72. Trichloroethylene	.005	1000	5 ppb	0
73. TTHMS (Total trihalomethanes)	.10	1000	100 ppb	n/a
74. Toluene	1		1 ppm	1
75. Vinyl Chloride	.002	1000	2 ppb	0
76. Xylenes	10		10 ppm	10

Note to subdivision (d)(iv) of this subrule: When rounding of results to determine compliance with the MCL is allowed, rounding may be done before multiplying the results by the factor listed in table 4.1 of this rule.

(v) For turbidity reported pursuant to R325.10720 and R 325.11004, the table shall indicate the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits for the filtration technology being used. The report may include an explanation of the reasons for measuring turbidity.

(vi) For lead and copper, the table shall indicate the 90<sup>th</sup> percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level.

(vii) For total coliform, the table shall indicate either of the following:

(A) The highest monthly number of positive samples for supplies collecting fewer than 40 samples per month.

(B) The highest monthly percentage of positive samples for supplies collecting not less than 40 samples per month.

(viii) For fecal coliform, the table shall indicate the total number of positive samples.

(ix) The table shall indicate the likely source or sources of detected contaminants to the best of the supply's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments and the supply shall use the information when it is available. If the supply lacks specific information on the likely source, then the report shall include one or more of the typical sources for that contaminant listed in table 4.2 that are most applicable to the community supply.

**TABLE 4.2**

Regulated Contaminants

Key: AL=Action Level

MCL=Maximum Contaminant Level

MCLG=Maximum Contaminant Level Goal

MFL=million fibers per liter

mrem/year=millirems per year (a measure of radiation absorbed by the body)

NTU=Nephelometric Turbidity Units

pCi/l=picocuries per liter (a measure of radioactivity)

ppm=parts per million, or milligrams per liter (mg/l)

ppb=parts per billion, or micrograms per liter (µg/l)

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ppt=parts per trillion, or nanograms per liter  
 ppq=parts per quadrillion, or picograms per liter  
 TT=Treatment Technique

<b>Contaminant (Units)</b>	<b>MCL G</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>	<b>Health Effects Language</b>
<b>Microbiological Contaminants</b>				
1. Total coliform bacteria	0	(Supplies that collect 40 or more samples per month) 5% of monthly samples are positive; (Supplies that collect fewer than 40 samples per month) 1 positive monthly sample.	Naturally present in the environment.	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
2. Fecal coliform and E. coli	0	A routine sample and a repeat sample are total coliform positive, and 1 is also fecal coliform or E. coli positive.	Human and animal fecal waste.	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
3. Turbidity	n/a	TT	Soil runoff.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

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<b>Contaminant (Units)</b>	<b>MCL G</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>	<b>Health Effects Language</b>
<b>Radioactive Contaminants</b>				
4. Beta/photon emitters (mrem/yr)	0	4	Decay of natural and man-made deposits.	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
5. Alpha emitters (pCi/l)	0	15	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
6. Combined radium (pCi/l)	0	5	Erosion of natural deposits.	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
<b>Inorganic Contaminants</b>				
7. Antimony (ppb)	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
8. Arsenic (ppb)	n/a	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
9. Asbestos (MFL)	7	7	Decay of asbestos cement water mains; erosion of natural deposits.	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.



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<b>Contaminant (Units)</b>	<b>MCL G</b>	<b>MCL</b>	<b>Major Sources in Drinking Water</b>	<b>Health Effects Language</b>
10. Barium (ppm)	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
11. Beryllium (ppb)	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
12. Cadmium (ppb)	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
13. Chromium (ppb)	100	100	Discharge from steel and pulp mills; erosion of natural deposits.	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
14. Copper (ppm)	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease are encouraged to consult their personal doctor.
15. Cyanide (ppb)	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories.	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

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16. Fluoride (ppm)	4	4	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
17. Lead (ppb)	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
18. Mercury [inorganic] (ppb)	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland.	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
19. Nitrate [as Nitrogen] (ppm)	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
20. Nitrite [as Nitrogen] (ppm)	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
21. Selenium (ppb)	50	50	Discharge from	Selenium is an essential nutrient.

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			petroleum and metal refineries; erosion of natural deposits; discharge from mines.	However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
22. Thallium (ppb)	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories.	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>				
23. 2,4-D (ppb)	70	70	Runoff from herbicide used on row crops.	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
24. 2,4,5-TP [Silvex] (ppb)	50	50	Residue of banned herbicide.	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
25. Acrylamide	0	TT	Added to water during sewage/ wastewater treatment.	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
26. Alachlor (ppb)	0	2	Runoff from herbicide used on row crops.	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
27. Atrazine (ppb)	3	3	Runoff from herbicide used on row crops.	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
28. Benzo(a)pyrene [PAH] (nanograms/l)	0	200	Leaching from linings of water storage tanks and distribution lines.	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an

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				increased risk of getting cancer.
29. Carbofuran (ppb)	40	40	Leaching of soil fumigant used on rice and alfalfa.	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
30. Chlordane (ppb)	0	2	Residue of banned termiticide.	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
31. Dalapon (ppb)	200	200	Runoff from herbicide used on rights of way.	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
32. Di(2-ethylhexyl) adipate (ppb)	400	400	Discharge from chemical factories.	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.
33. Di(2-ethylhexyl) phthalate (ppb)	0	6	Discharge from rubber and chemical factories.	Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
34. Dibromochloropropane (DBCP) (ppt)	0	200	Runoff/ leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
35. Dinoseb (ppb)	7	7	Runoff from herbicide used on soybeans and vegetables.	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
36. Diquat (ppb)	20	20	Runoff from herbicide use.	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.

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37. Dioxin [2,3,7,8-TCDD] (ppq)	0	30	Emissions from waste incineration and other combustion; discharge from chemical factories.	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
38. Endothall (ppb)	100	100	Runoff from herbicide use.	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
39. Endrin (ppb)	2	2	Residue of banned insecticide.	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
40. Epichlorohydrin	0	TT	Discharge from industrial chemical factories; an impurity of some water treatment chemicals.	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
41. Ethylene dibromide (ppt)	0	50	Discharge from petroleum refineries.	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
42. Glyphosate (ppb)	700	700	Runoff from herbicide use.	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
43. Heptachlor (ppt)	0	400	Residue of banned pesticide.	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
44. Heptachlor epoxide (ppt)	0	200	Breakdown of heptachlor.	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

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45. Hexachlorobenzene (ppb)	0	1	Discharge from metal refineries and agricultural chemical factories.	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
46. Hexachlorocyclopentadiene (ppb)	50	50	Discharge from chemical factories.	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
47. Lindane (ppt)	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens.	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
48. Methoxychlor (ppb)	40	40	Runoff/leaching from insecticide used on fruits, vegetables alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
49. Oxamyl [Vydate] (ppb)	200	200	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes.	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
50. PCBs [Polychlorinated biphenyls] (ppt)	0	500	Runoff from landfills; discharge of waste chemicals.	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
51. Pentachlorophenol (ppb)	0	1	Discharge from wood preserving factories.	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
52. Picloram (ppb)	500	500	Herbicide runoff.	Some people who drink water containing picloram in excess of

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				the MCL over many years could experience problems with their liver.
53. Simazine (ppb)	4	4	Herbicide runoff.	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
54. Toxaphene (ppb)	0	3	Runoff/ leaching from insecticide used on cotton and cattle.	Some people who drink water containing toxaphene in excess of the MCL over many years could experience problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
<b>Volatile organic compounds</b>				
55. Benzene (ppb)	0	5	Discharge from factories; leaching from gas storage tanks and landfills.	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
56. Carbon tetrachloride (ppb)	0	5	Discharge from chemical plants and other industrial activities.	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
57. Chlorobenzene (ppb)	100	100	Discharge from chemical and agricultural chemical factories.	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
58. o- Dichlorobenzene (ppb)	600	600	Discharge from industrial chemical factories.	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
59. p- Dichlorobenzene (ppb)	75	75	Discharge from industrial chemical factories.	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
60. 1,2- Dichloroethane (ppb)	0	5	Discharge from industrial chemical	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years

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			factories.	may have an increased risk of getting cancer.
61. 1,1-Dichloroethylene (ppb)	7	7	Discharge from industrial chemical factories.	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
62. cis-1,2-Dichloroethylene (ppb)	70	70	Discharge from industrial chemical factories.	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
63. trans-1,2-Dichloroethylene (ppb)	100	100	Discharge from industrial chemical factories.	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
64. Dichloromethane (ppb)	0	5	Discharge from pharmaceutical and chemical factories.	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
65. 1,2-Dichloropropane (ppb)	0	5	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
66. Ethylbenzene (ppb)	700	700	Discharge from petroleum refineries.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
67. Styrene (ppb)	100	100	Discharge from rubber and plastic factories; leaching from landfills.	Some people who drink water containing styrene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory system.
68. Tetrachloroethylene (ppb)	0	5	Discharge from factories and dry cleaners.	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
69. 1,2,4-	70	70	Discharge from	Some people who drink water



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Trichlorobenzene (ppb)			textile-finishing factories.	containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
70. 1,1,1-Trichloroethane (ppb)	200	200	Discharge from metal degreasing sites and other factories.	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
71. 1,1,2-Trichloroethane (ppb)	3	5	Discharge from industrial chemical factories.	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could experience problems with their liver, kidneys, or immune systems.
72. Trichloroethylene (ppb)	0	5	Discharge from metal degreasing sites and other factories.	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
73. TTHMS [Total trihalomethanes] (ppb)	n/a	100	By-product of drinking water chlorination.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
74. Toluene (ppb)	1	1	Discharge by petroleum factories.	Some people who drink water containing toluene well in excess of the MCL over many years could experience problems with their nervous system, kidneys, or liver.
75. Vinyl Chloride (ppb)	0	2	Leaching from PVC piping; discharge from plastics factories.	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
76. Xylenes (ppm)	10	10	Discharge from petroleum factories; discharge from chemical factories.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

(e) If a community supply distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, then the table may contain a separate

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column for each service area and the report may identify each separate distribution supply. Alternatively, supplies may produce separate reports tailored to include data for each service area.

(f) The table or tables shall clearly identify any data indicating violations of MCLs or treatment techniques and the report shall contain a clear and readily understandable explanation of the violation including the length of the violation, the potential adverse health effects, and actions taken by the supply to address the violation. The supply shall use the relevant language in table 4.2 to describe the potential health effects.

(g) For detected unregulated contaminants for which monitoring is required, except *Cryptosporidium*, the table or tables shall contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.

(8) The following information shall be included on *Cryptosporidium*, radon, and other contaminants:

(a) If the supply has performed any monitoring for *Cryptosporidium*, including monitoring performed to satisfy the requirements of 40 C.F.R. part 141, §141.143, which indicates that *Cryptosporidium* may be present in the source water or the finished water, the report shall include both of the following:

(i) A summary of the results of the monitoring.

(ii) An explanation of the significance of the results.

(b) If the supply has performed any monitoring for radon which indicates that radon may be present in the finished water, then the report shall include both of the following:

(i) The results of the monitoring.

(ii) An explanation of the significance of the results.

(c) If the supply has performed additional monitoring which indicates the presence of other contaminants in the finished water, then the supply is encouraged to report any results that may indicate a health concern. To determine if results may indicate a health concern, the supply may determine if EPA has proposed an NPDWR or issued a health advisory for that contaminant by calling the Safe Drinking Water Hotline (800-426-4791). EPA considers detects above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, the report may include both of the following:

(i) The results of the monitoring.

(ii) An explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.

(9) For compliance with NPDWR, in addition to the requirements of subrule (7)(f) of this rule, the report shall note any violation that occurred during the year covered by the report for all of the following requirements and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the supply has taken to correct the violation:

(a) Monitoring and reporting of compliance data.

(b) For filtration and disinfection prescribed by 40 C.F.R. part 141, subpart H, supplies which have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes which constitutes a violation shall include the following language as part of the explanation of potential adverse health effects in the report: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

(c) For lead and copper control requirements prescribed by 40 C.F.R. part 141, subpart I, supplies which fail to take one or more actions prescribed by R 325.10604f(1)(d), R 325.10604f(2), R 325.10604f(3), R 325.10604f(4), or R 325.10604f(5) shall include the applicable language of table 4.2 for lead, copper, or both, in the report.

(d) For treatment techniques for acrylamide and epichlorohydrin prescribed by R 325.10604e, supplies that violate the requirements of R 325.10604e shall include the relevant language from table 4.2 in the report.

(e) Recordkeeping of compliance data.

(f) Special monitoring requirements prescribed by R 325.10717b.

(g) Violation of the terms of a variance, an exemption, or an administrative or judicial order.

(10) For variances and exemptions, if a supply is operating under the terms of a variance or an exemption issued under section 20 of the act, then the report shall contain all of the following information:

(a) An explanation of the reasons for the variance or exemption.

(b) The date on which the variance or exemption was issued.

(c) A brief status report on the steps the supply is taking to install treatment, find alternative sources of

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water, or otherwise comply with the terms and schedules of the variance or exemption.

(d) A notice of any opportunity for public input in the review, or renewal, of the variance or exemption.

(11) The report shall include the following additional information:

(a) A brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled water. The explanation may include the language of subdivision (a)(i) through (iii) of this subrule or supplies may use their own comparable language. The report also shall include the language of subdivision (a)(iv) of this subrule.

(i) The sources of drinking water, both tap water and bottled water, including rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

(ii) Contaminants that may be present in source water include the following:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

(E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

(iii) In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water supplies. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health.

(iv) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

(b) The report shall include the telephone number of the owner, operator, or designee of the community supply as a source of additional information concerning the report.

(c) In communities with greater than 10% non-English speaking residents, the report shall contain information in the appropriate language or languages regarding the importance of the report or the report shall contain a telephone number or address where residents may contact the supply to obtain a translated copy of the report or assistance in the appropriate language.

(d) The report shall include information about opportunities for public participation in decisions by the supplies that may affect the quality of the water; for example, time and place of regularly scheduled board meetings.

(e) The supply may include such additional information as it determines necessary for public education consistent with, and not detracting from, the purpose of the report.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10414 Annual consumer confidence reporting; required additional health information.**

Rule 414.(1) All reports shall prominently display the following language: "Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people may seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)."

(2) A supply that detects arsenic at levels above 25 µg/l, but below the MCL shall do either of the following:

(a) Include in its report a short informational statement about arsenic, using language, such as, "EPA is

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reviewing the current drinking water standard of 50 µg/l (50 ppb) for arsenic. A recent study conducted by the national academy of sciences suggests that the current standard may not be stringent enough. Arsenic contamination can be caused by erosion of natural deposits, runoff from orchards and runoff from glass and electronics production wastes. Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations.”

(b) Write its own educational statement, but only in consultation with the department.

(3) A supply that detects nitrate at levels above 5 mg/l, but below the MCL shall do either of the following:

(a) Include a short informational statement about the impacts of nitrate on children using language, such as, “Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you are encouraged to ask advice from your health care provider.”

(b) Write its own educational statement, but only in consultation with the department.

(4) Supplies that detect lead above the action level in more than 5%, and up to and including 10%, of homes sampled shall do either of the following:

(a) Include a short informational statement about the special impact of lead on children using language, such as, “Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home’s plumbing. If you are concerned about elevated lead levels in your home’s water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).”

(b) Write its own educational statement, but only in consultation with the department.

(5) Community water supplies that detect total trihalomethanes above 0.080 mg/l, but below the MCL in R 325.10604a, as an annual average, monitored and calculated under the provisions of R 325.10719a, R325.10719b, and R325.10719c, shall include health effects language prescribed by table 4.2.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10415 Annual consumer confidence reporting; report delivery and recordkeeping.**

Rule 415. (1) Except as provided in subrule (7) of this rule, each community supply shall mail or otherwise directly deliver one copy of the report to each customer.

(2) The supply shall make a good faith effort to reach consumers who do not get water bills, using means recommended by the department. The department expects that an adequate good faith effort will be tailored to the consumers who are served by the supply but are not bill-paying customers such as renters or workers. A good faith effort to reach consumers may include, but not be limited to, a mix of any of the following methods appropriate to the particular supply:

(a) Posting the report on the Internet.

(b) Mailing to postal patrons in metropolitan areas.

(c) Advertising the availability of the report in the news media.

(d) Publication in a local newspaper.

(e) Posting in public places such as cafeterias or lunch rooms of public buildings.

(f) Delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers.

(g) Delivery to community organizations.

(3) Not later than the date the supply is required to distribute the report to its customers, each community supply shall mail a copy of the report to the department, followed within 3 months by a certification that the report has been distributed to customers, and that the information is correct and consistent with the compliance monitoring data previously submitted to the department.

(4) Not later than the date the supply is required to distribute the report to its customers, each community supply shall deliver the report to the local health department with jurisdiction in the county in which the supply is located. If the supply’s service area is located in more than one county, then the report shall be delivered to all appropriate local health departments. In addition, each community supply shall deliver the report to any other agency or clearinghouse identified in writing by the department.

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- (5) Each community supply shall make its report available to the public upon request.
- (6) Each community supply serving 100,000 or more persons shall post its current year's report to a publicly accessible site on the Internet.
- (7) The governor or his or her designee, for the purposes of waiving the mailing requirement, may waive the requirement of subrule (1) of this rule for community water supplies serving fewer than 10,000 persons.
  - (a) Supplies serving fewer than 10,000 persons that elect to use the waiver shall do all the following:
    - (i) Publish the report in one or more local newspapers serving the area in which the supply is located.
    - (ii) Inform the customers that the report will not be mailed, either in the newspapers in which the report is published or by other means approved by the department.
    - (iii) Make the report available to the public upon request.
  - (b) Supplies serving 500 or fewer persons that elect to use the waiver may forego the requirements of subdivision (a)(i) and (ii) of this subrule if they provide notice at least once per year to their customers by mail, door-to-door delivery, or by posting in an appropriate location that the report is available upon request.
- (8) Any supply subject to R 325.10411 to R 325.10415 shall retain copies of its consumer confidence report for not less than 5 years.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10416 Annual water quality reporting; child care centers and K-12 schools classified as nontransient noncommunity water supplies.**

Rule 416.(1) R 325.10416 to R 325.10419 apply only to the following nontransient noncommunity water supplies:

- (a) Child care centers classified as nontransient noncommunity water supplies.
- (b) K-12 schools classified as nontransient noncommunity water supplies.
- (2) R 325.10418 establishes the minimum requirements for the content of annual water quality reports that shall be available to consumers and to the parents or legal guardians of students or children less than 18 years of age.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10417 Annual water quality reporting; effective dates.**

Rule 417. (1) Each existing nontransient noncommunity water supply that is also a child care center or K-12 school shall make available its first annual water quality report by October 1, 2001 and subsequent annual water quality reports by October 1 annually.

- (2) A new nontransient noncommunity water supply that is also a child care center or K-12 school shall make available its first annual water quality report by October 1 of the year after its first full calendar year in operation and then by October 1 annually.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10418 Annual water quality reporting; content of reports.**

Rule 418. (1) Each nontransient noncommunity water supply that is also a child care center or K12 school shall prepare an annual water quality report that contains either a summary of compliance monitoring data for the previous calendar year or copies of the laboratory reports for all compliance monitoring performed in the previous calendar year.

- (2) The first annual water quality report after completion of a source water assessment by the department shall include a notification that the source water assessment has been completed and that a copy of the source water assessment is available upon request.

History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10419 Annual water quality reporting; report delivery and recordkeeping.**

Rule 419. (1) Each nontransient noncommunity water supply that is also a child care center or K12 school shall post for at least 30 days a statement instructing interested parties that the annual water quality report is available upon request.

- (2) Any supply subject to this rule shall retain copies of its annual water quality report and the notice of availability for not less than 5 years.

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History: 2001 MR 9, Eff. May 17, 2001.

**R 325.10420 Annual water quality reporting; contaminants for vulnerable subpopulation.**

Rule 420. Pursuant to section 14 of the act, if any contaminants listed in table 4.3 are detected above a level of concern as indicated in table 4.3, then the consumer confidence report or the annual water quality report may include a description of the potential health effects and the vulnerable subpopulation that may be susceptible to the level of contaminant detected using the relevant language provided in table 4.2.

**TABLE 4.3**

Contaminants For Vulnerable Subpopulation Reporting

<b>Contaminant</b>	<b>Susceptible Vulnerable Subpopulation</b>	<b>Level Of Concern</b>
Fecal coliform/ E. coli	Infants, young children, and people with severely compromised immune systems.	Confirmed presence (any confirmed detect)
Copper	People with Wilson's disease.	1.3 mg/l (ppm)
Fluoride	Children.	4.0 mg/l (ppm)
Lead	Infants and children.	15.0 µg/l (ppb)
Nitrate	Infants below the age of six months.	10.0 mg/l (ppm)
Nitrite	Infants below the age of six months.	1.0 mg/l (ppm)

History: 2001 MR 9, Eff. May 17, 2001.

**PART 5. TYPES OF PUBLIC WATER SUPPLIES**

**R 325.10505**

**Source:** 1991 AACS.

**R 325.10506**

**Source:** 1991 AACS.

**PART 6. STATE DRINKING WATER STANDARDS AND ANALYTICAL TECHNIQUES**

**R 325.10601**

**Source:** 1998-2000 AACS.

**R 325.10601a**

**Source:** 1998-2000 AACS.

**R 325.10602**

**Source:** 1993 AACS.

**R 325.10603**

**Source:** 1993 AACS.

**R 325.10604**

**Source:** 1998-2000 AACS.

**R 325.10604a**

**Source:** 1993 AACS.

**R 325.10604b**

**Source:** 1994 AACS.

**R 325.10604c**

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**Source:** 1994 AACS.

**R 325.10604d**

**Source:** 1998-2000 AACS.

**R 325.10604e**

**Source:** 1993 AACS.

**R 325.10604f**

**Source:** 1994 AACS.

**R 325.10605**

**Source:** 1998-2000 AACS.

**R 325.10605a**

**Source:** 1998-2000 AACS.

**R 325.10605b**

**Source:** 1998-2000 AACS.

**R 325.10605c**

**Source:** 1998-2000 AACS.

**R 325.10605d**

**Source:** 1998-2000 AACS.

**R 325.10605e**

**Source:** 1998-2000 AACS.

**R 325.10606**

**Source:** 1998-2000 AACS.

**R 325.10607**

**Source:** 1998-2000 AACS.

**R 325.10608**

**Source:** 1998-2000 AACS.

**R 325.10609**

**Source:** 1998-2000 AACS.

**PART 7. SURVEILLANCE, INSPECTION, AND MONITORING**

**R 325.10702**

**Source:** 1991 AACS.

**R 325.10705**

**Source:** 1993 AACS.

**R 325.10706**

**Source:** 1993 AACS.

**R 325.10707**

**Source:** 1991 AACS.

**R 325.10707a**

**Source:** 1998-2000 AACS.

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- R 325.10707b**  
Source: 1991 AACS.
- R 325.10708**  
Source: 1991 AACS.
- R 325.10709**  
Source: 1998-2000 AACS.
- R 325.10710**  
Source: 1998-2000 AACS.
- R 325.10710a**  
Source: 1998-2000 AACS.
- R 325.10710b**  
Source: 1998-2000 AACS.
- R 325.10710c**  
Source: 1998-2000 AACS.
- R 325.10710d**  
Source: 1998-2000 AACS.
- R 325.10711**  
Source: 1997 AACS.
- R 325.10712**  
Source: 1997 AACS.
- R 325.10713**  
Source: 1997 AACS.
- R 325.10714**  
Source: 1997 AACS.
- R 325.10715**  
Source: 1997 AACS.
- R 325.10716**  
Source: 1998-2000 AACS.
- R 325.10717**  
Source: 1998-2000 AACS.
- R 325.10717a**  
Source: 1997 AACS.
- R 325.10717b**  
Source: 1998-2000 AACS.
- R 325.10717c**  
Source: 1993 AACS.
- R 325.10718**  
Source: 1997 AACS.



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**R 325.10719**  
**Source:** 1993 AACS.

**R 325.10719a**  
**Source:** 1984 AACS.

**R 325.10719b**  
**Source:** 1984 AACS.

**R 325.10719c**  
**Source:** 1984 AACS.

**R 325.10719d**  
**Source:** 1984 AACS.

**R 325.10720**  
**Source:** 1993 AACS.

**R 325.10721**  
**Source:** 1991 AACS.

**R 325.10724**  
**Source:** 1997 AACS.

**R 325.10728**  
**Source:** 1989 AACS.

**R 325.10734**  
**Source:** 1991 AACS.

**R 325.10737**  
**Source:** 1997 AACS.

**PART 8. GROUNDWATER SOURCES**

**R 325.10822**  
**Source:** 1991 AACS.

**R 325.10831**  
**Source:** 1991 AACS.

**R 325.10833**  
**Source:** 1997 AACS.

**PART 10. TREATMENT SYSTEMS AND PUMPING FACILITIES**

**R 325.11002**  
**Source:** 1998-2000 AACS.

**R 325.11004**  
**Source:** 1994 AACS.

**R 325.11008**  
**Source:** 1991 AACS.

**PART 11. DISTRIBUTION SYSTEMS AND STORAGE TANKS**

**R 325.11110**

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**Source:** 1991 AACS.

**R 325.11117**

**Source:** 1991 AACS.

**PART 14. CROSS-CONNECTIONS**

**R 325.11404**

**Source:** 1998-2000 AACS.

**R 325.11405**

**Source:** 1998-2000 AACS.

**R 325.11406**

**Source:** 1998-2000 AACS.

**PART 15. OPERATION REPORTS AND RECORDKEEPING**

**R 325.11502**

**Source:** 1991 AACS.

**R 325.11503**

**Source:** 1991 AACS.

**R 325.11505a**

**Source:** 1991 AACS.

**R 325.11506**

**Source:** 1994 AACS.

**PART 19. EXAMINATION AND CERTIFICATION OF OPERATORS**

**R 325.11901**

**Source:** 1998-2000 AACS.

**R 325.11902**

**Source:** 1998-2000 AACS.

**R 325.11903**

**Source:** 1998-2000 AACS.

**R 325.11904**

**Source:** 1998-2000 AACS.

**R 325.11905**

**Source:** 1998-2000 AACS.

**R 325.11906**

**Source:** 1998-2000 AACS.

**R 325.11906a**

**Source:** 1998-2000 AACS.

**R 325.11906b**

**Source:** 1998-2000 AACS.

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**R 325.11907**

**Source:** 1991 AACS.

**R 325.11908**

**Source:** 1998-2000 AACS.

**R 325.11909**

**Source:** 1991 AACS.

**R 325.11910**

**Source:** 1998-2000 AACS.

**R 325.11911**

**Source:** 1998-2000 AACS.

**R 325.11912**

**Source:** 1998-2000 AACS.

**R 325.11913**

**Source:** 1998-2000 AACS.

**R 325.11914**

**Source:** 1998-2000 AACS.

**R 325.11915**

**Source:** 1998-2000 AACS.

**R 325.11915a**

**Source:** 1998-2000 AACS.

**R 325.11916**

**Source:** 1997 AACS.

**R 325.11917**

**Source:** 1998-2000 AACS.

**PART 27. LABORATORY CERTIFICATION**

**R 325.12701**

**Source:** 1994 AACS.

**R 325.12702**

**Source:** 1998-2000 AACS.

**R 325.12705**

**Source:** 1998-2000 AACS.

**R 325.12706**

**Source:** 1994 AACS.

**PART 28. WELLHEAD PROTECTION GRANT ASSISTANCE**

**R. 325.12801**

**Source:** 1998-2000 AACS.

**R 325. 12802**

**Source:** 1998-2000 AACS.

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**R 325.12803**  
**Source:** 1998-2000 AACS.

**R 325.12804**  
**Source:** 1998-2000 AACS.

**R 325.12805**  
**Source:** 1998-2000 AACS.

**R 325.12806**  
**Source:** 1998-2000 AACS.

**R 325.12807**  
**Source:** 1998-2000 AACS.

**R 325.12808**  
**Source:** 1998-2000 AACS.

**R 325.12809**  
**Source:** 1998-2000 AACS.

**R 325.12810**  
**Source:** 1998-2000 AACS.

**R 325.12811**  
**Source:** 1998-2000 AACS.

**R 325.12812**  
**Source:** 1998-2000 AACS.

**R 325.12813**  
**Source:** 1998-2000 AACS.

**R 325.12814**  
**Source:** 1998-2000 AACS.

**R 325.12815**  
**Source:** 1998-2000 AACS.

**R 325.12816**  
**Source:** 1998-2000 AACS.

**R 325.12817**  
**Source:** 1998-2000 AACS.

**R 325.12818**  
**Source:** 1998-2000 AACS.

**R 325.12819**  
**Source:** 1998-2000 AACS.

**R 325.12820**  
**Source:** 1998-2000 AACS.

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**DEPARTMENT OF COMMUNITY HEALTH  
OFFICE OF LOCAL HEALTH SERVICES  
LOCAL HEALTH PERSONNEL**

**R 325.13001**  
**Source:** 1980 AACS.

**R 325.13002**  
**Source:** 1980 AACS.

**R 325.13003**  
**Source:** 1980 AACS.

**R 325.13004**  
**Source:** 1980 AACS.

**R 325.13005**  
**Source:** 1980 AACS.

**R 325.13006**  
**Source:** 1980 AACS.

**R 325.13007**  
**Source:** 1980 AACS.

**R 325.13008**  
**Source:** 1980 AACS.

**R 325.13009**  
**Source:** 1980 AACS.

**COST-SHARED SERVICES**

**R 325.13051**  
**Source:** 1981 AACS.

**R 325.13053**  
**Source:** 1981 AACS.

**R 325.13055**  
**Source:** 1981 AACS.

**R 325.13057**  
**Source:** 1981 AACS.

**R 325.13059**  
**Source:** 1981 AACS.

**R 325.13061**  
**Source:** 1981 AACS.

**R 325.13063**  
**Source:** 1981 AACS.

**R 325.13065**  
**Source:** 1981 AACS.

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**R 325.13067**  
**Source:** 1981 AACS.

**R 325.13069**  
**Source:** 1981 AACS.

**R 325.13071**  
**Source:** 1981 AACS.

**DIVISION OF CHILD HEALTH  
VISION SCREENING AND TESTING**

**R 325.13091**  
**Source:** 1981 AACS.

**R 325.13092**  
**Source:** 1981 AACS.

**R 325.13093**  
**Source:** 1981 AACS.

**R 325.13094**  
**Source:** 1981 AACS.

**R 325.13095**  
**Source:** 1981 AACS.

**R 325.13096**  
**Source:** 1981 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES  
BUREAU OF HEALTH FACILITIES  
HOSPICE**

**PART 1. GENERAL PROVISIONS**

**R 325.13101**  
**Source:** 1984 AACS.

**R 325.13102**  
**Source:** 1984 AACS.

**R 325.13104**  
**Source:** 1984 AACS.

**R 325.13105**  
**Source:** 1984 AACS.

**R 325.13106**  
**Source:** 1984 AACS.

**R 325.13107**  
**Source:** 1984 AACS.

**R 325.13108**

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**Source:** 1984 AACS.

**R 325.13109**

**Source:** 1984 AACS.

**R 325.13110**

**Source:** 1984 AACS.

**R 325.13111**

**Source:** 1984 AACS.

**PART 2. LICENSURE**

**R 325.13201**

**Source:** 1984 AACS.

**R 325.13202**

**Source:** 1984 AACS.

**R 325.13203**

**Source:** 1984 AACS.

**R 325.13204**

**Source:** 1984 AACS.

**R 325.13205**

**Source:** 1984 AACS.

**R 325.13206**

**Source:** 1984 AACS.

**R 325.13207**

**Source:** 1984 AACS.

**R 325.13208**

**Source:** 1984 AACS.

**R 325.13209**

**Source:** 1984 AACS.

**R 325.13210**

**Source:** 1984 AACS.

**R 325.13211**

**Source:** 1984 AACS.

**R 325.13212**

**Source:** 1984 AACS.

**R 325.13213**

**Source:** 1984 AACS.

**PART 3. SERVICES**

**R 325.13301**

**Source:** 1984 AACS.

**R 325.13302**

**Source:** 1984 AACS.

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**R 325.13303**  
**Source:** 1984 AACS.

**R 325.13304**  
**Source:** 1984 AACS.

**R 325.13305**  
**Source:** 1984 AACS.

**R 325.13306**  
**Source:** 1984 AACS.

**R 325.13307**  
**Source:** 1984 AACS.

**PART 4. HEARING PROCEDURE**

**R 325.13401**  
**Source:** 1984 AACS.

**R 325.13402**  
**Source:** 1984 AACS.

**R 325.13403**  
**Source:** 1984 AACS.

**R 325.13404**  
**Source:** 1984 AACS.

**R 325.13405**  
**Source:** 1984 AACS.

**R 325.13406**  
**Source:** 1984 AACS.

**R 325.13407**  
**Source:** 1984 AACS.

**R 325.13408**  
**Source:** 1984 AACS.

**R 325.13409**  
**Source:** 1984 AACS.

**R 325.13410**  
**Source:** 1984 AACS.

**R 325.13411**  
**Source:** 1984 AACS.

**R 325.13412**  
**Source:** 1984 AACS.

**R 325.13413**  
**Source:** 1984 AACS.

**R 325.13414**  
**Source:** 1984 AACS.



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**R 325.13415**  
**Source:** 1984 AACS.

**R 325.13416**  
**Source:** 1984 AACS.

**R 325.13417**  
**Source:** 1984 AACS.

**R 325.13418**  
**Source:** 1984 AACS.

**DEPARTMENT OF COMMUNITY HEALTH**  
**OFFICE OF SUBSTANCE ABUSE SERVICES**  
**SUBSTANCE ABUSE SERVICE PROGRAM**

**PART 1. GENERAL PROVISIONS**

**R 325.14101**  
**Source:** 1981 AACS.

**R 325.14102**  
**Source:** 1981 AACS.

**R 325.14103**  
**Source:** 1981 AACS.

**R 325.14104**  
**Source:** 1981 AACS.

**R 325.14105**  
**Source:** 1981 AACS.

**R 325.14106**  
**Source:** 1981 AACS.

**R 325.14107**  
**Source:** 1981 AACS.

**R 325.14108**  
**Source:** 1981 AACS.

**R 325.14109**  
**Source:** 1981 AACS.

**R 325.14110**  
**Source:** 1981 AACS.

**R 325.14111**  
**Source:** 1981 AACS.

**R 325.14112**  
**Source:** 1981 AACS.

**R 325.14113**  
**Source:** 1981 AACS.

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**R 325.14114**  
**Source:** 1981 AACS.

**R 325.14115**  
**Source:** 1981 AACS.

**R 325.14116**  
**Source:** 1988 AACS.

**R 325.14117**  
**Source:** 1981 AACS.

**R 325.14125**  
**Source:** 1981 AACS.

**PART 2. LICENSURE OF SUBSTANCE ABUSE PROGRAMS**

**R 325.14201**  
**Source:** 1981 AACS.

**R 325.14202**  
**Source:** 1981 AACS.

**R 325.14203**  
**Source:** 1981 AACS.

**R 325.14204**  
**Source:** 1981 AACS.

**R 325.14205**  
**Source:** 1981 AACS.

**R 325.14206**  
**Source:** 1981 AACS.

**R 325.14207**  
**Source:** 1981 AACS.

**R 325.14208**  
**Source:** 1981 AACS.

**R 325.14209**  
**Source:** 1981 AACS.

**R 325.14210**  
**Source:** 1981 AACS.

**R 325.14211**  
**Source:** 1981 AACS.

**R 325.14212**  
**Source:** 1981 AACS.

**R 325.14213**  
**Source:** 1981 AACS.

**R 325.14214**  
**Source:** 1981 AACS.

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**PART 3. RECIPIENT RIGHTS**

**R 325.14301**  
**Source:** 1981 AACS.

**R 325.14302**  
**Source:** 1981 AACS.

**R 325.14303**  
**Source:** 1981 AACS.

**R 325.14304**  
**Source:** 1981 AACS.

**R 325.14305**  
**Source:** 1981 AACS.

**R 325.14306**  
**Source:** 1981 AACS.

**PART 4. METHADONE TREATMENT AND OTHER CHEMOTHERAPY**

**R 325.14401**  
**Source:** 1981 AACS.

**R 325.14402**  
**Source:** 1981 AACS.

**R 325.14403**  
**Source:** 1981 AACS.

**R 325.14404**  
**Source:** 1981 AACS.

**R 325.14405**  
**Source:** 1981 AACS.

**R 325.14406**  
**Source:** 1981 AACS.

**R 325.14407**  
**Source:** 1981 AACS.

**R 325.14408**  
**Source:** 1981 AACS.

**R 325.14409**  
**Source:** 1981 AACS.

**R 325.14410**  
**Source:** 1981 AACS.

**R 325.14411**  
**Source:** 1981 AACS.

**R 325.14412**  
**Source:** 1981 AACS.

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**R 325.14413**  
**Source:** 1981 AACS.

**R 325.14414**  
**Source:** 1981 AACS.

**R 325.14415**  
**Source:** 1981 AACS.

**R 325.14416**  
**Source:** 1981 AACS.

**R 325.14417**  
**Source:** 1981 AACS.

**R 325.14418**  
**Source:** 1981 AACS.

**R 325.14419**  
**Source:** 1981 AACS.

**R 325.14420**  
**Source:** 1981 AACS.

**R 325.14421**  
**Source:** 1981 AACS.

**R 325.14422**  
**Source:** 1981 AACS.

**R 325.14423**  
**Source:** 1981 AACS.

**PART 5. PREVENTION**

**R 325.14501**  
**Source:** 1981 AACS.

**R 325.14521**  
**Source:** 1981 AACS.

**R 325.14522**  
**Source:** 1981 AACS.

**R 325.14523**  
**Source:** 1981 AACS.

**R 325.14524**  
**Source:** 1981 AACS.

**R 325.14525**  
**Source:** 1981 AACS.

**R 325.14526**  
**Source:** 1981 AACS.

**R 325.14527**  
**Source:** 1981 AACS.

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**R 325.14528**  
**Source:** 1981 AACS.

**R 325.14529**  
**Source:** 1981 AACS.

**R 325.14530**  
**Source:** 1981 AACS.

**PART 6. CASEFINDING**

**R 325.14601**  
**Source:** 1981 AACS.

**R 325.14602**  
**Source:** 1981 AACS.

**R 325.14603**  
**Source:** 1981 AACS.

**R 325.14621**  
**Source:** 1981 AACS.

**R 325.14622**  
**Source:** 1981 AACS.

**R 325.14623**  
**Source:** 1981 AACS.

**PART 7. OUTPATIENT PROGRAMS**

**R 325.14701**  
**Source:** 1981 AACS.

**R 325.14702**  
**Source:** 1981 AACS.

**R 325.14703**  
**Source:** 1981 AACS.

**R 325.14704**  
**Source:** 1981 AACS.

**R 325.14705**  
**Source:** 1981 AACS.

**R 325.14706**  
**Source:** 1981 AACS.

**R 325.14707**  
**Source:** 1981 AACS.

**R 325.14708**  
**Source:** 1981 AACS.

**R 325.14709**  
**Source:** 1981 AACS.

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**R 325.14710**  
**Source:** 1981 AACS.

**R 325.14711**  
**Source:** 1981 AACS.

**R 325.14712**  
**Source:** 1981 AACS.

**PART 8. INPATIENT PROGRAMS**

**R 325.14801**  
**Source:** 1981 AACS.

**R 325.14802**  
**Source:** 1981 AACS.

**R 325.14803**  
**Source:** 1981 AACS.

**R 325.14804**  
**Source:** 1981 AACS.

**R 325.14805**  
**Source:** 1981 AACS.

**R 325.14806**  
**Source:** 1981 AACS.

**R 325.14807**  
**Source:** 1981 AACS.

**PART 9. RESIDENTIAL PROGRAMS**

**R 325.14901**  
**Source:** 1981 AACS.

**R 325.14902**  
**Source:** 1981 AACS.

**R 325.14903**  
**Source:** 1981 AACS.

**R 325.14904**  
**Source:** 1981 AACS.

**R 325.14905**  
**Source:** 1981 AACS.

**R 325.14906**  
**Source:** 1981 AACS.

**R 325.14907**  
**Source:** 1981 AACS.

**R 325.14908**  
**Source:** 1981 AACS.

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**R 325.14909**  
**Source:** 1981 AACS.

**R 325.14910**  
**Source:** 1981 AACS.

**R 325.14911**  
**Source:** 1981 AACS.

**R 325.14921**  
**Source:** 1981 AACS.

**R 325.14922**  
**Source:** 1981 AACS.

**R 325.14923**  
**Source:** 1981 AACS.

**R 325.14924**  
**Source:** 1981 AACS.

**R 325.14925**  
**Source:** 1981 AACS.

**R 325.14926**  
**Source:** 1981 AACS.

**R 325.14927**  
**Source:** 1981 AACS.

**R 325.14928**  
**Source:** 1981 AACS.

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF OCCUPATIONAL HEALTH  
CLASS IV DRY CLEANING ESTABLISHMENTS  
PART 1. GENERAL PROVISIONS**

**R 325.17101**  
**Source:** 1981 AACS.

**R 325.17102**  
**Source:** 1981 AACS.

**R 325.17103**  
**Source:** 1981 AACS.

**R 325.17104**  
**Source:** 1981 AACS.

**R 325.17105**  
**Source:** 1981 AACS.

**R 325.17106**  
**Source:** 1981 AACS.

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**R 325.17107**  
**Source:** 1981 AACS.

**R 325.17108**  
**Source:** 1981 AACS.

**R 325.17109**  
**Source:** 1981 AACS.

**PART 2. DRAWINGS**

**R 325.17201**  
**Source:** 1981 AACS.

**R 325.17202**  
**Source:** 1987 AACS.

**R 325.17203**  
**Source:** 1981 AACS.

**R 325.17204**  
**Source:** 1981 AACS.

**R 325.17205**  
**Source:** 1981 AACS.

**R 325.17206**  
**Source:** 1981 AACS.

**R 325.17207**  
**Source:** 1981 AACS.

**R 325.17208**  
**Source:** 1981 AACS.

**R 325.17209**  
**Source:** 1981 AACS.

**R 325.17210**  
**Source:** 1981 AACS.

**PART 3. LICENSURE**

**R 325.17301**  
**Source:** 1987 AACS.

**R 325.17302**  
**Source:** 1987 AACS.

**R 325.17303**  
**Source:** 1981 AACS.

**R 325.17304**  
**Source:** 1981 AACS.

**R 325.17305**  
**Source:** 1981 AACS.



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**R 325.17306**

**Source:** 1981 AACS.

**R 325.17307**

**Source:** 1981 AACS.

**R 325.17308**

**Source:** 1981 AACS.

**R 325.17309**

**Source:** 1981 AACS.

**PART 4. DRY CLEANING MACHINE REQUIREMENTS**

**R 325.17401**

**Source:** 1981 AACS.

**R 325.17402**

**Source:** 1981 AACS.

**R 325.17403**

**Source:** 1981 AACS.

**R 325.17404**

**Source:** 1981 AACS.

**R 325.17405**

**Source:** 1981 AACS.

**R 325.17406**

**Source:** 1981 AACS.

**R 325.17407**

**Source:** 1981 AACS.

**R 325.17408**

**Source:** 1981 AACS.

**R 325.17409**

**Source:** 1981 AACS.

**PART 5. BUILDING REQUIREMENTS**

**R 325.17501**

**Source:** 1981 AACS.

**R 325.17502**

**Source:** 1981 AACS.

**R 325.17503**

**Source:** 1981 AACS.

**R 325.17504**

**Source:** 1981 AACS.

**R 325.17505**

**Source:** 1981 AACS.

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**R 325.17506**  
**Source:** 1981 AACS.

**R 325.17507**  
**Source:** 1981 AACS.

**R 325.17508**  
**Source:** 1981 AACS.

**R 325.17509**  
**Source:** 1981 AACS.

**R 325.17510**  
**Source:** 1981 AACS.

**PART 7. INSTALLATION, OPERATION, AND VENTILATION**

**R 325.17701**  
**Source:** 1981 AACS.

**R 325.17702**  
**Source:** 1981 AACS.

**R 325.17703**  
**Source:** 1981 AACS.

**R 325.17704**  
**Source:** 1981 AACS.

**R 325.17705**  
**Source:** 1981 AACS.

**R 325.17706**  
**Source:** 1981 AACS.

**R 325.17707**  
**Source:** 1981 AACS.

**R 325.17708**  
**Source:** 1981 AACS.

**R 325.17709**  
**Source:** 1981 AACS.

**R 325.17710**  
**Source:** 1981 AACS.

**R 325.17711**  
**Source:** 1981 AACS.

**R 325.17712**  
**Source:** 1981 AACS.

**PART 9. INSPECTIONS OF DRY CLEANING ESTABLISHMENTS**

**R 325.17901**  
**Source:** 1981 AACS.

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**R 325.17902**  
**Source:** 1981 AACS.

**R 325.17903**  
**Source:** 1981 AACS.

**R 325.17904**  
**Source:** 1981 AACS.

**R 325.17905**  
**Source:** 1981 AACS.

**R 325.17906**  
**Source:** 1981 AACS.

**PART 10. CONTESTED CASES**

**R 325.18001**  
**Source:** 1981 AACS.

**R 325.18002**  
**Source:** 1981 AACS.

**R 325.18003**  
**Source:** 1981 AACS.

**R 325.18004**  
**Source:** 1981 AACS.

**R 325.18005**  
**Source:** 1981 AACS.

**R 325.18006**  
**Source:** 1981 AACS.

**PART 11. TYPICAL DESIGN PRINTS AND DIAGRAMS**

**R 325.18101**  
**Source:** 1981 AACS.

**R 325.18102**  
**Source:** 1981 AACS.

**R 325.18103**  
**Source:** 1981 AACS.

**R 325.18104**  
**Source:** 1981 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES  
OCCUPATIONAL HEALTH STANDARDS COMMISSION  
PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS**

**R 325.18301**  
**Source:** 1998-2000 AACS.

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**R 325.18302**

**Source:** 1998-2000 AACs.

**HEALTH FACILITIES SERVICES ADMINISTRATION  
NURSING HOMES AND NURSING CARE FACILITIES**

**PART 1. GENERAL PROVISIONS**

**R 325.20101**

**Source:** 1981 AACs.

**R 325.20102**

**Source:** 1981 AACs.

**R 325.20103**

**Source:** 1981 AACs.

**R 325.20104**

**Source:** 1983 AACs.

**R 325.20106**

**Source:** 1981 AACs.

**R 325.20107**

**Source:** 1981 AACs.

**R 325.20108**

**Source:** 1981 AACs.

**R 325.20109**

**Source:** 1981 AACs.

**R 325.20110**

**Source:** 1981 AACs.

**R 325.20111**

**Source:** 1981 AACs.

**R 325.20112**

**Source:** 1981 AACs.

**R 325.20113**

**Source:** 1983 AACs.

**R 325.20114**

**Source:** 1981 AACs.

**R 325.20115**

**Source:** 1981 AACs.

**R 325.20116**

**Source:** 1981 AACs.

**R 325.20117**

**Source:** 1983 AACs.

**R 325.20118**

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**Source:** 1981 AACS.

**PART 2. LICENSURE**

**R 325.20201**

**Source:** 1981 AACS.

**R 325.20202**

**Source:** 1981 AACS.

**R 325.20203**

**Source:** 1981 AACS.

**R 325.20204**

**Source:** 1981 AACS.

**R 325.20205**

**Source:** 1981 AACS.

**R 325.20206**

**Source:** 1983 AACS.

**R 325.20207**

**Source:** 1981 AACS.

**R 325.20208**

**Source:** 1981 AACS.

**R 325.20209**

**Source:** 1981 AACS.

**R 325.20210**

**Source:** 1981 AACS.

**R 325.20211**

**Source:** 1981 AACS.

**R 325.20212**

**Source:** 1981 AACS.

**R 325.20213**

**Source:** 1981 AACS.

**R 325.20214**

**Source:** 1981 AACS.

**R 325.20215**

**Source:** 1981 AACS.

**PART 3. ACCESS TO NURSING HOMES AND PATIENTS**

**R 325.20301**

**Source:** 1981 AACS.

**R 325.20302**

**Source:** 1983 AACS.

**R 325.20303**

**Source:** 1983 AACS.

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**R 325.20304**

**Source:** 1983 AACS.

**PART 4. ADMINISTRATIVE MANAGEMENT OF HOMES**

**R 325.20401**

**Source:** 1981 AACS.

**R 325.20402**

**Source:** 1981 AACS.

**R 325.20403**

**Source:** 1981 AACS.

**R 325.20404**

**Source:** 1983 AACS.

**R 325.20405**

**Source:** 1981 AACS.

**R 325.20406**

**Source:** 1983 AACS.

**R 325.20407**

**Source:** 1981 AACS.

**PART 5. PATIENT CARE**

**R 325.20501**

**Source:** 1981 AACS.

**R 325.20502**

**Source:** 1983 AACS.

**R 325.20503**

**Source:** 1981 AACS.

**R 325.20504**

**Source:** 1981 AACS.

**R 325.20505**

**Source:** 1981 AACS.

**R 325.20506**

**Source:** 1981 AACS.

**R 325.20507**

**Source:** 1981 AACS.

**R 325.20508**

**Source:** 1981 AACS.

**R 325.20509**

**Source:** 1981 AACS.

**PART 6. PHYSICIAN SERVICES**

**R 325.20601**

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**Source:** 1981 AACS.

**R 325.20602**

**Source:** 1981 AACS.

**R 325.20603**

**Source:** 1983 AACS.

**R 325.20604**

**Source:** 1981 AACS.

**R 325.20605**

**Source:** 1983 AACS.

**R 325.20606**

**Source:** 1981 AACS.

**PART 7. NURSING SERVICES**

**R 325.20701**

**Source:** 1983 AACS.

**R 325.20702**

**Source:** 1983 AACS.

**R 325.20703**

**Source:** 1986 AACS.

**R 325.20704**

**Source:** 1986 AACS.

**R 325.20705**

**Source:** 1981 AACS.

**R 325.20706**

**Source:** 1981 AACS.

**R 325.20707**

**Source:** 1983 AACS.

**R 325.20708**

**Source:** 1981 AACS.

**R 325.20709**

**Source:** 1984 AACS.

**R 325.20710**

**Source:** 1981 AACS.

**R 325.20711**

**Source:** 1983 AACS.

**R 325.20712**

**Source:** 1983 AACS.

**R 325.20713**

**Source:** 1981 AACS.

**R 325.20714**

**Annual Administrative Code Supplement  
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**Source:** 1983 AACS.

**PART 8. DIETARY SERVICES**

**R 325.20801**

**Source:** 1983 AACS.

**R 325.20802**

**Source:** 1981 AACS.

**R 325.20803**

**Source:** 1981 AACS.

**R 325.20804**

**Source:** 1983 AACS.

**R 325.20805**

**Source:** 1981 AACS.

**R 325.20806**

**Source:** 1983 AACS.

**PART 9. PHARMACEUTICAL SERVICES**

**R 325.20901**

**Source:** 1983 AACS.

**R 325.20902**

**Source:** 1981 AACS.

**R 325.20903**

**Source:** 1981 AACS.

**R 325.20904**

**Source:** 1981 AACS.

**R 325.20905**

**Source:** 1981 AACS.

**R 325.20906**

**Source:** 1981 AACS.

**PART 10. OTHER SERVICES**

**R 325.21001**

**Source:** 1981 AACS.

**R 325.21002**

**Source:** 1981 AACS.

**R 325.21003**

**Source:** 1986 AACS.

**PART 11. RECORDS**

**R 325.21101**

**Source:** 1983 AACS.



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**R 325.21102**  
**Source:** 1983 AACS.

**R 325.21103**  
**Source:** 1981 AACS.

**R 325.21104**  
**Source:** 1981 AACS.

**R 325.21105**  
**Source:** 1983 AACS.

**PART 12. MEDICAL AUDIT, UTILIZATION REVIEW, AND QUALITY CONTROL**

**R 325.21201**  
**Source:** 1981 AACS.

**R 325.21203**  
**Source:** 1981 AACS.

**R 325.21204**  
**Source:** 1981 AACS.

**PART 13. BUILDINGS AND GROUNDS**

**R 325.21301**  
**Source:** 1981 AACS.

**R 325.21302**  
**Source:** 1981 AACS.

**R 325.21303**  
**Source:** 1983 AACS.

**R 325.21304**  
**Source:** 1981 AACS.

**R 325.21305**  
**Source:** 1983 AACS.

**R 325.21306**  
**Source:** 1983 AACS.

**R 325.21307**  
**Source:** 1983 AACS.

**R 325.21308**  
**Source:** 1981 AACS.

**R 325.21309**  
**Source:** 1981 AACS.

**R 325.21310**  
**Source:** 1981 AACS.

**R 325.21311**  
**Source:** 1983 AACS.

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**R 325.21312**  
**Source:** 1981 AACS.

**R 325.21313**  
**Source:** 1981 AACS.

**R 325.21314**  
**Source:** 1981 AACS.

**R 325.21315**  
**Source:** 1981 AACS.

**R 325.21316**  
**Source:** 1983 AACS.

**R 325.21317**  
**Source:** 1983 AACS.

**R 325.21318**  
**Source:** 1981 AACS.

**R 325.21319**  
**Source:** 1981 AACS.

**R 325.21320**  
**Source:** 1981 AACS.

**R 325.21321**  
**Source:** 1981 AACS.

**R 325.21322**  
**Source:** 1981 AACS.

**R 325.21323**  
**Source:** 1983 AACS.

**R 325.21324**  
**Source:** 1981 AACS.

**R 325.21325**  
**Source:** 1981 AACS.

**R 325.21326**  
**Source:** 1983 AACS.

**R 325.21327**  
**Source:** 1983 AACS.

**R 325.21328**  
**Source:** 1981 AACS.

**PART 14. CHILD CARE HOMES AND CHILD CARE UNITS**

**R 325.21401**  
**Source:** 1981 AACS.

**R 325.21402**  
**Source:** 1981 AACS.

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**R 325.21403**  
**Source:** 1981 AACS.

**R 325.21404**  
**Source:** 1981 AACS.

**R 325.21405**  
**Source:** 1981 AACS.

**R 325.21406**  
**Source:** 1981 AACS.

**R 325.21407**  
**Source:** 1981 AACS.

**R 325.21408**  
**Source:** 1981 AACS.

**R 325.21409**  
**Source:** 1981 AACS.

**R 325.21410**  
**Source:** 1981 AACS.

**R 325.21411**  
**Source:** 1981 AACS.

**PART 15. CERTIFICATION**

**R 325.21501**  
**Source:** 1981 AACS.

**R 325.21502**  
**Source:** 1981 AACS.

**R 325.21503**  
**Source:** 1981 AACS.

**R 325.21504**  
**Source:** 1981 AACS.

**R 325.21505**  
**Source:** 1981 AACS.

**R 325.21506**  
**Source:** 1981 AACS.

**R 325.21507**  
**Source:** 1981 AACS.

**R 325.21508**  
**Source:** 1981 AACS.

**R 325.21509**  
**Source:** 1981 AACS.

**R 325.21510**  
**Source:** 1981 AACS.

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**R 325.21511**

**Source:** 1981 AACS.

**R 325.21512**

**Source:** 1981 AACS.

**R 325.21513**

**Source:** 1981 AACS.

**R 325.21514**

**Source:** 1981 AACS.

**R 325.21515**

**Source:** 1981 AACS.

**PART 16. NURSING FACILITIES FOR CARE OF MENTALLY ILL PATIENTS**

**R 325.21601**

**Source:** 1981 AACS.

**R 325.21602**

**Source:** 1981 AACS.

**R 325.21603**

**Source:** 1981 AACS.

**R 325.21604**

**Source:** 1981 AACS.

**R 325.21605**

**Source:** 1981 AACS.

**PART 17. NURSING FACILITIES FOR CARE OF MENTALLY RETARDED PATIENTS**

**R 325.21701**

**Source:** 1981 AACS.

**R 325.21702**

**Source:** 1981 AACS.

**R 325.21703**

**Source:** 1981 AACS.

**R 325.21704**

**Source:** 1981 AACS.

**R 325.21705**

**Source:** 1981 AACS.

**PART 18. NURSING FACILITIES FOR CARE OF TUBERCULOSIS PATIENTS**

**R 325.21801**

**Source:** 1981 AACS.

**R 325.21802**

**Source:** 1981 AACS.

**R 325.21803**

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**Source:** 1981 AACS.

**R 325.21804**

**Source:** 1981 AACS.

**R 325.21805**

**Source:** 1981 AACS.

**R 325.21806**

**Source:** 1981 AACS.

**R 325.21807**

**Source:** 1981 AACS.

**PART 19. HEARING PROCEDURE**

**R 325.21901**

**Source:** 1981 AACS.

**R 325.21902**

**Source:** 1981 AACS.

**R 325.21903**

**Source:** 1981 AACS.

**R 325.21904**

**Source:** 1981 AACS.

**R 325.21905**

**Source:** 1981 AACS.

**R 325.21906**

**Source:** 1981 AACS.

**R 325.21907**

**Source:** 1981 AACS.

**R 325.21908**

**Source:** 1981 AACS.

**R 325.21909**

**Source:** 1981 AACS.

**R 325.21910**

**Source:** 1981 AACS.

**R 325.21911**

**Source:** 1981 AACS.

**R 325.21912**

**Source:** 1981 AACS.

**R 325.21913**

**Source:** 1981 AACS.

**R 325.21914**

**Source:** 1981 AACS.

**R 325.21915**

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**Source:** 1981 AACS.

**R 325.21916**

**Source:** 1981 AACS.

**R 325.21917**

**Source:** 1981 AACS.

**R 325.21918**

**Source:** 1981 AACS.

**R 325.21919**

**Source:** 1981 AACS.

**R 325.21920**

**Source:** 1981 AACS.

**R 325.21921**

**Source:** 1981 AACS.

**R 325.21922**

**Source:** 1981 AACS.

**PART 20. EDUCATION AND TRAINING OF UNLICENSED NURSING PERSONNEL**

**R 325.22001**

**Source:** 1983 AACS.

**R 325.22002**

**Source:** 1983 AACS.

**R 325.22003**

**Source:** 1983 AACS.

**R 325.22003a**

**Source:** 1984 AACS.

**R 325.22004**

**Source:** 1983 AACS.

**EMERGENCY MEDICAL SERVICES**

**PART 1. GENERAL PROVISIONS**

**R 325.23101**

**Source:** 1984 AACS.

**R 325.23102**

**Source:** 1984 AACS.

**R 325.23103**

**Source:** 1984 AACS.

**R 325.23104**

**Source:** 1984 AACS.

**R 325.23105**

**Source:** 1984 AACS.

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**R 325.23106**  
**Source:** 1984 AACS.

**R 325.23107**  
**Source:** 1984 AACS.

**PART 2. EMERGENCY MEDICAL SERVICES SYSTEM**

**R 325.23201**  
**Source:** 1984 AACS.

**R 325.23202**  
**Source:** 1984 AACS.

**R 325.23203**  
**Source:** 1984 AACS.

**PART 3. AMBULANCE PERSONNEL, AMBULANCE ATTENDANTS**

**R 325.23301**  
**Source:** 1984 AACS.

**R 325.23302**  
**Source:** 1984 AACS.

**R 325.23303**  
**Source:** 1984 AACS.

**R 325.23304**  
**Source:** 1984 AACS.

**PART 4. ADVANCED EMERGENCY MEDICAL TECHNICIANS, EMERGENCY MEDICAL  
TECHNICIAN SPECIALISTS, EMERGENCY MEDICAL TECHNICIANS**

**R 325.23401**  
**Source:** 1984 AACS.

**R 325.23402**  
**Source:** 1984 AACS.

**R 325.23403**  
**Source:** 1984 AACS.

**R 325.23404**  
**Source:** 1984 AACS.

**R 325.23405**  
**Source:** 1984 AACS.

**R 325.23406**  
**Source:** 1984 AACS.

**R 325.23407**  
**Source:** 1984 AACS.

**PART 5. INSTRUCTOR-COORDINATORS**

**R 325.23501**

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**Source:** 1984 AACS.

**R 325.23502**

**Source:** 1984 AACS.

**R 325.23503**

**Source:** 1984 AACS.

**R 325.23504**

**Source:** 1984 AACS.

**R 325.23505**

**Source:** 1984 AACS.

**R 325.23506**

**Source:** 1984 AACS.

**R 325.23507**

**Source:** 1984 AACS.

**PART 6. TRAINING PROGRAM REQUIREMENTS**

**R 325.23601**

**Source:** 1984 AACS.

**R 325.23602**

**Source:** 1984 AACS.

**R 325.23603**

**Source:** 1984 AACS.

**PART 7. MEDICAL CONTROL**

**R 325.23701**

**Source:** 1984 AACS.

**R 325.23702**

**Source:** 1984 AACS.

**R 325.23703**

**Source:** 1984 AACS.

**R 325.23704**

**Source:** 1984 AACS.

**R 325.23705**

**Source:** 1984 AACS.

**R 325.23706**

**Source:** 1984 AACS.

**R 325.23707**

**Source:** 1984 AACS.

**PART 8. ADVANCED AND LIMITED ADVANCED MOBILE EMERGENCY CARE SERVICES**

**R 325.23801**

**Source:** 1984 AACS.



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**R 325.23802**  
**Source:** 1984 AACS.

**R 325.23803**  
**Source:** 1984 AACS.

**R 325.23804**  
**Source:** 1984 AACS.

**R 325.23805**  
**Source:** 1984 AACS.

**R 325.23806**  
**Source:** 1984 AACS.

**R 325.23807**  
**Source:** 1984 AACS.

**R 325.23808**  
**Source:** 1984 AACS.

**PART 9. AMBULANCE OPERATIONS**

**R 325.23901**  
**Source:** 1984 AACS.

**R 325.23902**  
**Source:** 1984 AACS.

**R 325.23903**  
**Source:** 1984 AACS.

**R 325.23904**  
**Source:** 1984 AACS.

**R 325.23905**  
**Source:** 1984 AACS.

**R 325.23906**  
**Source:** 1984 AACS.

**PART 10. VEHICLE STANDARDS**

**R 325.24001**  
**Source:** 1984 AACS.

**R 325.24002**  
**Source:** 1984 AACS.

**R 325.24003**  
**Source:** 1984 AACS.

**R 325.24004**  
**Source:** 1984 AACS.

**R 325.24005**  
**Source:** 1984 AACS.

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**R 325.24006**  
**Source:** 1984 AACS.

**R 325.24007**  
**Source:** 1984 AACS.

**R 325.24008**  
**Source:** 1984 AACS.

**R 325.24009**  
**Source:** 1984 AACS.

**R 325.24010**  
**Source:** 1984 AACS.

**R 325.24011**  
**Source:** 1984 AACS.

**R 325.24012**  
**Source:** 1984 AACS.

**R 325.24013**  
**Source:** 1984 AACS.

**R 325.24014**  
**Source:** 1984 AACS.

**R 325.24015**  
**Source:** 1984 AACS.

**R 325.24016**  
**Source:** 1984 AACS.

**R 325.24017**  
**Source:** 1984 AACS.

**R 325.24018**  
**Source:** 1984 AACS.

**R 325.24020**  
**Source:** 1984 AACS.

**PART 11. HEARING PROCEDURES**

**R 325.24101**  
**Source:** 1984 AACS.

**R 325.24102**  
**Source:** 1984 AACS.

**R 325.24103**  
**Source:** 1984 AACS.

**R 325.24104**  
**Source:** 1984 AACS.

**R 325.24105**  
**Source:** 1984 AACS.

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**R 325.24106**  
**Source:** 1984 AACS.

**R 325.24107**  
**Source:** 1984 AACS.

**R 325.24108**  
**Source:** 1984 AACS.

**R 325.24109**  
**Source:** 1984 AACS.

**R 325.24110**  
**Source:** 1984 AACS.

**R 325.24111**  
**Source:** 1984 AACS.

**R 325.24112**  
**Source:** 1984 AACS.

**R 325.24113**  
**Source:** 1984 AACS.

**R 325.24114**  
**Source:** 1984 AACS.

**R 325.24115**  
**Source:** 1984 AACS.

**R 325.24116**  
**Source:** 1984 AACS.

**R 325.24117**  
**Source:** 1984 AACS.

**R 325.24118**  
**Source:** 1984 AACS.

**DEPARTMENT OF AGRICULTURE**  
**BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH**  
**FOOD SERVICE SANITATION**  
**PART 1. GENERAL PROVISIONS**

**R 325.25101 Rescinded.**  
History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25102 Rescinded.**  
History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25103 Rescinded.**  
History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25104 Rescinded.**

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History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25105 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25106 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**PART 4. DEPARTMENT AND LOCAL HEALTH DEPARTMENT PROGRAM REQUIREMENTS,  
PROCEDURES, AND EVALUATIONS**

**R 325.25401 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25402 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25403 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25404 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25501 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25502 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25503 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25504 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25505 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**PART 6. TEMPORARY AND MOBILE FOOD SERVICE ESTABLISHMENTS**

**R 325.25601 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25602 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25603 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25604 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25605 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

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**R 325.25606 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25607 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**PART 7. PLAN SUBMITTAL AND REVIEW**

**R 325.25701 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25702 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25703 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25704 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25705 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25706 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25707 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25708 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**PART 8. LICENSING AND ENFORCEMENT**

**R 325.25801 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25802 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25803 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25804 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25805 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25806 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

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**R 325.25807 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**PART 9. SURVEILLANCE AND INSPECTIONS**

**R 325.25901 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25902 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25903 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25904 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25905 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25906 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25907 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25908 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25909 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.25910 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**PART 10. VENTILATION**

**R 325.26001 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.26002 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.26003 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.26004 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.26005 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

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**R 325.26006 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.26007 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**R 325.26008 Rescinded.**

History: 1979 ACS 7, Eff. Sept. 2, 1981; rescinded 2001 MR 22, Eff. Dec. 4, 2001.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**OCCUPATIONAL HEALTH STANDARDS**

**MEDICAL SERVICES AND FIRST AID—GENERAL INDUSTRY**

**R 325.47201 Medical services and first aid.**

(1) An employer shall ensure the ready availability of medical personnel for advice and consultation on matters of plant health.

(2) An employer shall ensure that, in the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available.

(3) An employer shall ensure that suitable facilities for quick drenching or flushing of the eyes and body are provided within the work area for immediate emergency use when the eyes or body of any person may be exposed to injurious or corrosive materials.

(4) This rule replaces O.H. rule 4401.

History: 2001 MR 14, Eff. Jul. 31, 2001.

**ILLUMINATION**

**R 325.47801 Illumination level generally.**

Rule 1. (1) An employer shall ensure that the level of illumination is adequate as determined by the director for the task being performed.

(2) O.H. rules 4102, 4103, 4104, and 4105 are rescinded.

(3) This rule replaces O.H. rules 4101 to 4105.

(4) R 325.51004 and R 325.50902 replace O.H. Rule 4106.

History: 2001 MR 13, Eff. Jul. 17, 2001.

**METHYLENEDIANILINE (MDA)**

**R 325.50051**

**Source:** 1993 AACS.

**R 325.50052**

**Source:** 1998-2000 AACS.

**R 325.50053**

**Source:** 1993 AACS.

**R 325.50054**

**Source:** 1998-2000 AACS.

**R 325.50055**

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**Source:** 1993 AACS.

**R 325.50056**

**Source:** 1993 AACS.

**R 325.50057**

**Source:** 1993 AACS.

**R 325.50058**

**Source:** 1993 AACS.

**R 325.50059**

**Source:** 1993 AACS.

**R 325.50060**

**Source:** 1998-2000 AACS.

**R 325.50061**

**Source:** 1993 AACS.

**R 325.50062**

**Source:** 1993 AACS.

**R 325.50063**

**Source:** 1993 AACS.

**R 325.50064**

**Source:** 1993 AACS.

**R 325.50065**

**Source:** 1993 AACS.

**R 325.50066**

**Source:** 1993 AACS.

**R 325.50067**

**Source:** 1993 AACS.

**R 325.50068**

**Source:** 1993 AACS.

**R 325.50069**

**Source:** 1993 AACS.

**R 325.50070**

**Source:** 1993 AACS.

**R 325.50071**

**Source:** 1993 AACS.

**R 325.50072**

**Source:** 1993 AACS.

**R 325.50073**

**Source:** 1993 AACS.

**R 325.50074**

**Source:** 1998-2000 AACS.



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**R 325.50075**

**Source:** 1998-2000 AACS.

**R 325.50076**

**Source:** 1998-2000 AACS.

**1,3-BUTADIENE**

**R 325.50091**

**Source:** 1997 AACS.

**R 325.50092**

**Source:** 1998-2000 AACS.

**COKE OVEN EMISSIONS**

**R 325.50101**

**Source:** 1998-2000 AACS.

**R 325.50102**

**Source:** 1998-2000 AACS.

**R 325.50106**

**Source:** 1987 AACS.

**R 325.50107**

**Source:** 1987 AACS.

**R 325.50108**

**Source:** 1987 AACS.

**R 325.50109**

**Source:** 1987 AACS.

**R 325.50117**

**Source:** 1998-2000 AACS.

**R 325.50118**

**Source:** 1998-2000 AACS.

**R 325.50124**

**Source:** 1998-2000 AACS.

**R 325.50125**

**Source:** 1998-2000 AACS.

**R 325.50136**

**Source:** 1998-2000 AACS.

**R 325.50151**

**Source:** 1998-2000 AACS.

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**OCCUPATIONAL HEALTH STANDARDS**

**PART 2. TUNNELS, SHAFTS, CAISSONS, AND COFFERDAMS**

**R 325.50201**

**Source:** 1997 AACS.

**R 325.50202**

**Source:** 1997 AACS.

**R 325.50203**

**Source:** 1997 AACS.

**R 325.50204**

**Source:** 1997 AACS.

**R 325.50205**

**Source:** 1997 AACS.

**R 325.50206**

**Source:** 1997 AACS.

**R 325.50207**

**Source:** 1997 AACS.

**R 325.50208**

**Source:** 1997 AACS.

**R 325.50209**

**Source:** 1997 AACS.

**R 325.50210**

**Source:** 1997 AACS.

**R 325.50211**

**Source:** 1997 AACS.

**R 325.50212**

**Source:** 1997 AACS.

**R 325.50213**

**Source:** 1997 AACS.

**R 325.50214**

**Source:** 1997 AACS.

**R 325.50215**

**Source:** 1997 AACS.

**R 325.50216**

**Source:** 1997 AACS.

**R 325.50217**

**Source:** 1997 AACS.

**R 325.50218**

**Source:** 1997 AACS.

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**R 325.50219**  
**Source:** 1997 AACS.

**R 325.50220**  
**Source:** 1997 AACS.

**R 325.50221**  
**Source:** 1997 AACS.

**R 325.50222**  
**Source:** 1997 AACS.

**R 325.50223**  
**Source:** 1997 AACS.

**R 325.50224**  
**Source:** 1997 AACS.

**R 325.50225**  
**Source:** 1997 AACS.

**R 325.50226**  
**Source:** 1997 AACS.

**R 325.50227**  
**Source:** 1997 AACS.

**R 325.50228**  
**Source:** 1997 AACS.

**R 325.50229**  
**Source:** 1997 AACS.

**R 325.50230**  
**Source:** 1997 AACS.

**R 325.50231**  
**Source:** 1997 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**DIRECTOR'S OFFICE**

**OCCUPATIONAL HEALTH STANDARDS--ABRASIVE BLASTING**

**R 325.50251 Abrasive Blasting.**

Rule 1. (1) Scope. This rule applies to all operations where an abrasive is forcibly applied to a surface by pneumatic or hydraulic pressure, or by centrifugal force. It does not apply to steam blasting or steam cleaning, or hydraulic-cleaning methods where work is done without the aid of abrasives.

(2) This rule replaces O.H. rule 3205.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50252 Adoption of standards.**

Rule 2. (1) The National Fire Protection Association standard NFPA 68 "Explosion Venting Guide," 1954 edition is adopted by reference and is available from the National Fire Protection Association, One Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101 or via the internet at website: [www.nfpa.org](http://www.nfpa.org), at

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a cost as of the time of adoption of these amendatory rules of \$26.00 or is available for inspection at the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909.

(2) The following occupational safety and health administrative standards as referenced in these rules are available for inspection or distribution to the public at the offices of the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909 or via the internet at website: [www.cis.state.mi.us/bsr/divisions/std](http://www.cis.state.mi.us/bsr/divisions/std).

(a) General industry safety standard part 39. "Design Safety Standard for Electrical Systems" being R 408.13901 et seq. of the Michigan Administrative Code.

(b) Occupational health standard part 451. "Respiratory Protection" being R 325.60051 et seq. of the Michigan administrative code.

(c) Occupational health standard part 301. "Air Contaminants" being R 325.51101 et seq. of the Michigan administrative code.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50253 Definitions.**

Rule 3. As used in these rules:

(a) "Abrasive" means a solid substance used in an abrasive-blasting operation.

(b) "Abrasive-blasting respirator" means a respirator constructed so that it covers the wearer's head, neck, and shoulders to protect the wearer from rebounding abrasive.

(c) "Blast-cleaning barrel" means a complete enclosure which rotates on an axis, or which has an internal moving tread to tumble the parts, in order to expose various surfaces of the parts to the action of an automatic blast spray.

(d) "Blast-cleaning room" means a complete enclosure in which blasting operations are performed and where the operator works inside of the room to operate the blasting nozzle and direct the flow of the abrasive material.

(e) "Blasting cabinet" means an enclosure where the operator stands outside and operates the blasting nozzle through an opening or openings in the enclosure.

(f) "Clean air" means air that will not cause harm or discomfort to an individual if it is inhaled for extended periods of time.

(g) "Dust collectors" means a device or combination of devices for separating dust from the air handled by an exhaust ventilation system.

(h) "Exhaust ventilation system" means a system for removing contaminated air from a space that is comprised of 2 or more of the following elements:

(i) An enclosure or hood.

(ii) Duct work.

(iii) Dust-collecting equipment.

(iv) Exhauster.

(v) Discharge stack.

(i) "Particulate-filter respirator" means an air-purifying respirator, commonly referred to as a dust or a fume respirator, which removes most of the dust or fume from the air passing through the device.

(j) "Respirable dust" means airborne dust in sizes capable of passing throughout the upper respiratory system to reach the lower lung passages.

(k) "Rotary blast-cleaning table" means an enclosure where the pieces to be cleaned are positioned on a rotating table and are passed automatically through a series of blast sprays.

(l) "Abrasive blasting" means the forcible application of an abrasive to a surface by pneumatic pressure, hydraulic pressure, or centrifugal force.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50254 Dust hazards from abrasive blasting.**

Rule 4. (a) Abrasives and the surface coatings on the materials blasted are shattered and pulverized during blasting operations and the dust formed will contain particles of respirable size. An employer shall consider the composition and toxicity of the dust from these sources in making an evaluation of the potential

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health hazards.

(b) An employer shall ensure that the concentration of respirable dust or fume in the breathing zone of the abrasive-blasting operator or any other worker is kept below the exposure levels specified in R 325.51102 et seq., being the Michigan occupational health air contaminant standard.

(c) Organic abrasives that are combustible shall be used only in automatic systems. If flammable or explosive dust mixtures may be present, then the construction of the equipment, including the exhaust system and all electric wiring, shall conform to the requirements of American National Standard (ANS) Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, Z33.1-1961 (NFPA 91-1961) as adopted by reference in this rule, and R 408.13901 et seq. being the Michigan general industry safety standard part 39, Design Safety Standard for Electrical Systems. Printed copies of ANS Z33.1-1961 are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, telephone number 1-800-854-7179, website: [www.global.ihs.com](http://www.global.ihs.com), at a cost as of the time of adoption of these amendatory rules of \$20.00 or is available for inspection at the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909. The blast nozzle shall be bonded and grounded to prevent the buildup of static charges. If flammable or explosive dust mixtures may be present, then the abrasive blasting enclosure, the ducts, and the dust collector shall be constructed with loose panels or explosion venting areas, located on sides away from any occupied area, to provide for pressure relief in case of explosion, following the principles set forth in the National Fire Protection Association Explosion Venting Guide (NFPA 68-1954).

(d) With respect to operational procedures and general safety, dust shall not be permitted to accumulate on the floor or on ledges outside of an abrasive-blasting enclosure, and dust spills shall be cleaned up promptly. Aisles and walkways shall be kept clear of steel shot or similar abrasive that may create a slipping hazard.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50255 Blast-cleaning enclosures.**

Rule 5. (a) Blast-cleaning enclosures shall be exhaust ventilated so that a continuous inward flow of air will be maintained at all openings in the enclosure during the blasting operation.

(b) All air inlets and access openings shall be baffled or arranged so that, by combining inward air flow and baffling, the escape of abrasive or dust particles into an adjacent work area will be minimized and visible spurts of dust will not be observed.

(c) The rate of exhaust shall be sufficient to provide prompt clearance of dust-laden air within the enclosure after the cessation of blasting.

(d) Before the enclosure is opened, the blast shall be turned off and the system shall be run for a sufficient period of time to remove the dusty air within the enclosure.

(e) Where hard deep-cutting abrasives are used, safety glass protected by screening shall be used in observation windows.

(f) Slit abrasive-resistant baffles shall be installed in multiple sets of all small access openings where dust might escape and shall be inspected regularly and replaced when needed.

(g) Doors on blast-cleaning enclosures shall be flanged and tight when closed.

(h) Doors on blast-cleaning rooms shall be operable from both inside and outside, except that where there is a small operator access door, the large work access door may be closed or opened from the outside only.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50256. Exhaust ventilation systems.**

Rule 6. (a) The construction, installation, inspection, and maintenance of exhaust systems shall conform to the principles and requirements set forth in American National Standard fundamentals governing the design, construction, and ventilation for spray finishing exhaust systems, Z9.3-1985, and ANS Z33.1-1961 which is adopted by reference in R 325.50254. Printed copies of ANSI Z9.3-1985 are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, telephone number 1-800-854-7179, website: [www.global.ihs.com](http://www.global.ihs.com), at a cost as of the time of adoption of these amendatory rules of \$25.00 or is available for inspection at the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909.

(b) If dust leaks are noted, then repairs shall be made as soon as possible.

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(c) The static pressure drop at the exhaust ducts leading from the equipment shall be checked when the installation is completed and periodically thereafter to assure continued satisfactory operation. If an appreciable change in the pressure drop indicates a partial blockage, then the system shall be cleaned and returned to normal operating condition.

(d) In installations where the abrasive is recirculated, the exhaust ventilation system for the blasting enclosure shall not be relied upon for the removal of fines from the spent abrasive instead of an abrasive separator. An abrasive separator shall be provided for the purpose.

(e) The air exhausted from blast-cleaning equipment shall be discharged through dust-collecting equipment. Dust collectors shall be set up so that the accumulated dust can be emptied and removed without contaminating other working areas.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50257 Respiratory protection.**

Rule 7. (a) An employer shall implement a respiratory protection program in accordance with R 325.60051 et seq., being the Michigan occupational health respiratory protection standard part 451., when respirators are required by this rule.

(b) Abrasive-blasting respirators shall be worn by all abrasive-blasting operators in all of the following situations:

(i) When working inside blast-cleaning rooms.

(ii) When using silica sand in manual blasting operations where the nozzle and blast are not physically separated from the operator in an exhaust-ventilated enclosure.

(iii) Where concentrations of toxic dust dispersed by the abrasive blasting may exceed the exposure limits set in R 325.51102 et seq., being the Michigan occupational health air contaminant standard, and the nozzle and blast are not physically separated from the operator in an exhaust-ventilated enclosure.

(c) Employers may use properly fitted particulate-filter respirators, commonly referred to as dust-filter respirators, for short, intermittent, or occasional dust exposures such as cleanup, dumping of dust collectors, or unloading shipments of sand at a receiving point when it is not feasible to control the dust by enclosure, exhaust ventilation, or other means. The respirator used shall be for protection against the specific type of dust encountered.

(d) Dust-filter respirators may be used to protect the operator of outside abrasive-blasting operations where nonsilica abrasives are used on materials that have low toxicities.

(e) Dust-filter respirators shall not be used for continuous protection if silica sand is used as the blasting abrasive or if toxic materials are blasted.

History: 2001 MR 10, Eff. Jun 6, 2001.

**R 325.50258 Air supply and air compressors.**

Rule 8. An employer shall ensure that air for abrasive-blasting respirators is free of harmful quantities of dusts, mists, or noxious gases, and meets the requirements for supplied-air quality and use specified in R 325.60051 et seq., being the Michigan occupational health respiratory protection standard part 451.

History: 2001 MR 10, Eff. Jun 6, 2001.

**ILLUMINATION**

**R 325.50902 Illumination for pulpwood logging.**

Rule 1. With respect to pulpwood logging operations subject to O.H. rule 5006, an employer shall ensure that adequate lighting is provided on roads and trails if night work is necessary for pulpwood harvesting.

History: 2001 MR 13, Eff. Jul. 17, 2001.

**R 325.51004 Illumination for sawmills.**

Rule 1. All of the following provisions apply to sawmill operations subject to O.H. rule 5005.

(a) "Boom" means logs or timbers which are fastened together end to end and which are used to contain floating logs. The term includes enclosed logs.

(b) With respect to building facilities and isolated equipment, both of the following provisions apply for

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general lighting:

- (i) An employer shall ensure that illumination is provided and designed to supply adequate general and local lighting to rooms, buildings, and work areas when in use.
  - (ii) The adequacy and effectiveness of illumination will be determined using all of the following factors:
    - (A) The quantity of light in foot-candle intensity is sufficient for the work being done.
    - (B) The quality of the light is free from glare, and has correct direction, diffusion, and distribution.
    - (C) Shadows and extreme contrasts are avoided or kept to a minimum.
  - (c) Work areas under mills shall be as evenly surfaced as local conditions permit. Work areas under mills shall not have unnecessary obstructions and shall have lighting facilities in accordance with American national standard for industrial lighting A11.1-1965, which is adopted by reference in this rule. Printed copies of ANSI A11.1-1965 are available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, telephone number 1-800-854-7179, Website: [www.global.ihs.com](http://www.global.ihs.com), at a cost as of the time of adoption of these rules of \$54.00 or is available for inspection and purchase at the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909.
  - (d) All stairways shall be adequately lighted as prescribed in subdivision (b)(i) of this subrule.
  - (e) Fuel houses, bunkers, hoppers, and bins shall have adequate exits and lighting, and all necessary safety devices shall be provided and persons entering fuel houses, bunkers, hoppers, and bins shall use the safety devices.
  - (f) Log dumps, booms, ponds, or storage areas used at night shall be illuminated in accordance with the requirements of American National Standard A11.1-1965 (R-1970) Standard Practice for Industrial Lighting, which is adopted by reference in subdivision (c) of this subrule.
- History: 2001 MR 13, Eff. Jul. 17, 2001.

**AIR CONTAMINANTS**

**R 325.51102 Definitions.**

Rule 2. As used in these rules:

- (a) "Ceiling" means the employee's exposure which shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute, time-weighted average exposure which shall not be exceeded during any part of the working day.
- (b) "Skin designation" means those substances so indicated that have toxic effects due to absorption through an employee's skin.
- (c) "Short-term exposure limit (STEL)" means the employee's 15-minute, time-weighted average exposure which shall not be exceeded at any time during a workday, unless another time limit is specified in a parenthetical notation below the limit. If another time period is specified, then the time-weighted average exposure over that time limit shall not be exceeded at any time during the workday.
- (d) "Time-weighted average (TWA)" means the employee's average airborne exposure in any 8-hour workshift of a 40-hour workweek that shall not be exceeded.
- (e) The terms "substance" and "air contaminant" are equivalent in meaning for purposes of these rules.

History: 1990 MR 12, Eff. Dec. 25, 1990; 2001 MR 8, Eff. May 9, 2001.

**R 325.51103 Exposure limits.**

Rule 3. An employer shall ensure that an employee exposure to any substance listed in tables G-1-A or G-2 in R 325.51108 is limited in accordance with the requirements of all of the following provisions:

- (a) With respect to table G-1-A, all of the following provisions apply:
  - (i) Removed (date).
  - (ii) Removed (date).
  - (iii) An employee's exposure to any substance listed in table G-1-A shall not exceed the time-weighted average (TWA) limit, short-term exposure limit (STEL) and ceiling limit specified for that substance in table G-1-A.
  - (iv) To prevent or reduce skin absorption, an employee's skin exposure to substances listed in table G-1-A

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with an "X" in the skin designation column following the substance name shall be prevented or reduced to the extent necessary through the use of gloves, coveralls, goggles, or other appropriate personal protective equipment, engineering controls, or work practices.

(v) An employee shall not be exposed to air concentrations between the TWA and STEL limits more than 4 times in a workshift and such exposures shall be no less than 60 minutes apart.

(b) With respect to table G-2, all of the following provisions apply:

(i) An employee's exposure to any substance listed in table G-2 in any 8-hour workshift of a 40-hour workweek shall not exceed the 8-hour, time-weighted average limit given for that substance in table G-2.

(ii) An employee's exposure to a substance listed in table G-2 shall not exceed, at any time during an 8-hour workshift, the acceptable ceiling concentration limit given for the substance in the table, except for a period of time and up to a concentration that does not exceed the maximum duration and concentration allowed in the column under "Acceptable maximum peak above the ceiling concentration for an 8-hour workshift." For example, during an 8-hour workshift, an employee may be exposed to a concentration of substance A (with a 10 parts of the substance per million parts of air (ppm) TWA, 25 ppm ceiling and 50 ppm peak) above 25 ppm (but not above 50 ppm) only for a maximum period of 10 minutes. Such an exposure shall be compensated for by exposures to concentrations less than 10 ppm so the cumulative exposure for the entire 8-hour workshift does not exceed a time-weighted average of 10 ppm.

(iii) If a substance is preceded by an "S", then an employer shall take the necessary precautions to prevent an employee from absorbing the substance through his or her skin.

History: 1990 MR 12, Eff. Dec. 25, 1990; 2001 MR 8, Eff. May 9, 2001.

**R 325.51104 Computation formulae.**

Rule 4. The computation formulas that shall apply to employee exposure to one or more substances that have an 8-hour, time-weighted average listed in table G-1-A or G-2 to determine whether an employee is exposed in excess of the exposure limit are as follows:

(a) An employer shall compute the cumulative exposure for multiple exposures to a single substance for an 8-hour workshift as follows:

$$E = (C_1 T_1 + C_2 T_2 + \dots C_n T_n) \div 8 \text{ hours}$$

Where: E is the cumulative exposure for an 8-hour workshift.

C<sub>1</sub> is the substance concentration during the first period of time "T" where the concentration remains constant.

C<sub>2</sub> is the substance concentration during the second period of time "T" where the concentration remains constant.

T is the period of time in hours for which the substance concentration C remains constant.

The value of E shall not exceed the 8-hour, time-weighted average limit for the substance as specified in table G-1-A or G-2.

To illustrate the formula for a cumulative exposure to a single substance, assume that substance A has an 8-hour, time-weighted average exposure limit of 100 ppm noted in table G-1-A. Assume that an employee is subject to the following exposures over an 8-hour workshift:

Two hours' exposure at 150 ppm

Two hours' exposure at 75 ppm

Four hours' exposure at 50 ppm

Substituting this information into the formula:

$$E = [(150 \text{ ppm} \times 2 \text{ hrs}) + (75 \text{ ppm} \times 2 \text{ hrs}) + (50 \text{ ppm} \times 4 \text{ hrs})] \div 8 \text{ hrs}$$

$$E = [300 \text{ ppm}\cdot\text{hrs} + 150 \text{ ppm}\cdot\text{hrs} + 200 \text{ ppm}\cdot\text{hrs}] \div 8 \text{ hrs}$$

$$E = 650 \text{ ppm}\cdot\text{hrs} \div 8 \text{ hrs} = 81.25 \text{ ppm}$$

Since the cumulative exposure of 81.25 ppm is less than the exposure limit of 100 ppm, then the employee's 8-hour workshift exposure is acceptable.

(b) An employer shall compute the equivalent exposure for a mixture of air contaminants for an 8-hour workshift as follows:

$$E_m = (C_1 \div L_1 + C_2 \div L_2) + \dots (C_n \div L_n)$$

Where: E<sub>m</sub> is the equivalent exposure to the mixture of air contaminants during an 8-hour workshift.

C<sub>1</sub> is the average 8-hour concentration of the first substance.



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$C_2$  is the average 8-hour concentration of the second substance.

$L$  is the 8-hour, TWA exposure limit for that particular substance.

The value of  $E_m$  shall not exceed a value of one (1.0).

To illustrate the formula for a mixture of air contaminants, assume the following exposures:

Substances in mixture	Average concentration of 8-hour exposure (C)	8-hour TWA exposure limit (L)
Substance A	500 ppm	1,000 ppm
Substance B	45 ppm	200 ppm
Substance D	40 ppm	200 ppm

Substituting this information into the formula:

$$E_m = (500 \text{ ppm} / 1,000 \text{ ppm}) + (45 \text{ ppm} / 200 \text{ ppm}) + (40 \text{ ppm} / 200 \text{ ppm})$$

$$E_m = 0.500 + 0.225 + 0.200$$

$$E_m = 0.925$$

Since the value of  $E_m$  did not exceed one (1.0), the employee's 8-hour workshift exposure to the mixture of air contaminants is acceptable.

History: 1990 MR 12, Eff. Dec. 25, 1990; 2001 MR 8, Eff. May 9, 2001.

**R 325.51105 Methods of compliance.**

Rule 5. To achieve compliance with the provisions of R 325.51103 and R 325.51104, administrative or engineering controls shall first be determined and implemented when feasible. If such controls are not feasible to achieve full compliance, then personal protective equipment or any other protective measures shall be used to keep the employee's exposure to air contaminants within the exposure limits prescribed in these rules. Any equipment and technical measures used for this purpose shall be approved for each particular use by a competent industrial hygienist or other technically qualified person. When a respirator is used, its use shall comply with the provisions of R 325.60051 et seq. respiratory protection, part 451.

History: 1990 MR 12, Eff. Dec. 25, 1990; 2001 MR 8, Eff. May 9, 2001.

**R 325.51106 Rescind (date).**

History: 1990 MR 12, Eff. Dec. 25, 1990; 2001 MR 8, Eff. May 9, 2001.

**R 325.51107**

**Source:** 1990 AACs.

**R 325.51108 Tables.**

Rule 8. Tables G-1-A and G-2 read as follows:

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS								
Substance	CAS No. <sup>A</sup>	TWA		STEL <sup>D</sup>		Ceiling		Skin Designation
		ppm <sup>B</sup>	mg/m <sup>3C</sup>	Pp m <sup>B</sup>	mg/m <sup>3C</sup>	ppm <sup>B</sup>	mg/m <sup>3C</sup>	
Abate		—	15	—	—	—	—	—
Acetaldehyde	75-07-0	100	180	150	270	—	—	—
Acetic acid	64-19-7	10	25	—	—	—	—	—
Acetic anhydride	108-24-7	—	—	—	—	5	20	—
Acetone	67-64-1	750	1800	1000	2400	—	—	—
Acetonitrile	75-05-8	40	70	60	105	—	—	—
2-Acetylaminofluori	53-96-3							

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ne; see O.H. rule 2301(1) <sup>F</sup>								
Acetylene dichloride; see 1,2- Dichloroethylene								
Acetylene tetrabromide	79-27-6	1	14	—	—	—	—	—
Acetylsalicylic acid (Aspirin)	50-78-2	—	5	—	—	—	—	—
Acrolein	107-02-8	0.1	0.25	0.3	0.8	—	—	—
Acrylamide	79-06-1	—	0.03	—	—	—	—	x
Acrylic acid	79-10-7	10	30	—	—	—	—	x
Acrylonitrile; see R 325.51501 et seq. <sup>F</sup>	107-13-1	2	4.34	10	21.7			
Aldrin	309-00-2	—	0.25	—	—	—	—	x
Allyl alcohol	107-18-6	2	5	4	10	—	—	x
Allyl chloride	107-05-1	1	3	2	6	—	—	—
Allyl glycidyl ether (AGE)	106-92-3	5	22	10	44	—	—	—
Allyl propyl disulfide	2179-59-1	2	12	3	18	—	—	—
— Alumina (aluminum oxide) Respirable fraction Total dust	1344-28-1	— —	5 10	— —	— —	— —	— —	— —
Aluminum (as Al) Alkyls Metal Respirable dust Total dust Pyro powders Soluble salts Welding fumes*	7429-90-5	— — — — — — —	2  5 15 5 2 5	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —
4-Aminodiphenyl; see O.H. rule 2301(2) <sup>F</sup>	92-67-1							
2-Aminoethanol; see Ethanolamine								
2-Aminopyridine	504-29-0	0.5	2	—	—	—	—	—
Amitrole	61-82-5	—	0.2	—	—	—	—	—
Ammonia	7664-41-7	—	—	35	27	—	—	—
Ammonium chloride fume	12125-02-9	—	10	—	20	—	—	—
Ammonium sulfamate Respirable dust Total dust	7773-06-0	— —	5 10	— —	— —	— —	— —	— —
n-Amyl acetate	628-63-7	100	525	—	—	—	—	—

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sec-Amyl acetate	626-38-0	125	650	—	—	—	—	—
Aniline and homologues	62-53-3	2	8	—	—	—	—	x
Anisidine (o- and p-isomers)	29191-52-4	—	0.5	—	—	—	—	x
Antimony and compounds (as Sb)	7440-36-0	—	0.5	—	—	—	—	—
ANTU (alpha-naphthylthiourea)	86-88-4	—	0.3	—	—	—	—	—
Arsenic, organic compounds (as As)	7440-38-2	—	0.5	—	—	—	—	—
Arsenic, inorganic compounds (as As); see R 325.51601 et seq. <sup>F</sup>	7440-38-2		0.01					
Arsine	7784-42-1	0.05	0.2	—	—	—	—	—
		TWA		STEL				
Asbestos; see R 325.51311 et seq. <sup>F</sup>	Varies	0.2f/cc		1f/cc				
		ppm <sup>B</sup>	mg/m <sup>3C</sup>	Pp m <sup>B</sup>	mg/ m <sup>3C</sup>			
Atrazine	1912-24-9	—	5	—	—	—	—	—
Azinphos-methyl	86-50-0	—	0.2	—	—	—	—	x
Barium, Soluble compounds (as Ba)	7440-39-3	—	0.5	—	—	—	—	—
Barium sulfate	7727-43-7							
Respirable dust		—	5	—	—	—	—	—
Total dust		—	10	—	—	—	—	—
Benomyl	17804-35-2							
Respirable dust		—	5	—	—	—	—	—
Total dust		—	10	—	—	—	—	—
Benzene <sup>E</sup> ; see R 325.77101 et seq. <sup>F</sup> and table G-2 for limits applicable in the operations or sectors excluded in R 325.77101 <sup>E</sup>	71-43-2	1	3.19	5	15.9 7			
Benzydine; see O.H. rule 2301(3)	92-87-5							
p-Benzoquinone; see Quinone								
Benzo(a)pyrene; see Coal tar pitch volatiles								
Benzoyl peroxide	94-36-0	—	5	—	—	—	—	—
Benzyl chloride	100-44-7	1	5	—	—	—	—	—

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Beryllium and beryllium compounds (as Be)	7440-41-7	See table G-2						
Biphenyl; see Diphenyl								
Bismuth telluride, Undoped	1304-82-1	–	5	–	–	–	–	–
Respirable dust		–	15	–	–	–	–	–
Total dust								
Bismuth telluride, Se-doped		–	5	–	–	–	–	–
Borates, Tetra, Sodium Salts	1330-43-4	–	10	–	–	–	–	–
Anhydrous	1303-96-4	–	10	–	–	–	–	–
Decahydrate	12179-04-3	–	10	–	–	–	–	–
Pentahydrate								
Boron oxide, Total dust	1303-86-2	–	10	–	–	–	–	–
Boron tribromide	10294-33-4	–	–	–	–	1	10	–
Boron trifluoride	7637-07-2	–	–	–	–	1	3	–
Bromacil	314-40-9	1	10	–	–	–	–	–
Bromine	7726-95-6	0.1	0.7	0.3	2	–	–	–
Bromine pentafluoride	7789-30-2	0.1	0.7	–	–	–	–	–
Bromoform	75-25-2	0.5	5	–	–	–	–	–
1,3-Butadiene; see R 325.50091 et seq. <sup>F</sup>	106-99-0	1	2.2	5	11.1	–	–	–
Butane	106-97-8	800	1900	–	–	–	–	–
Butanethiol; see Butyl mercaptan								
2-Butanone (Methyl ethyl ketone)	78-93-3	200	590	300	885	–	–	–
2-Butoxyethanol	111-76-2	25	120	–	–	–	–	x
n-Butyl acetate	123-86-4	150	710	200	950	–	–	–
sec-Butyl acetate	105-46-4	200	950	–	–	–	–	–
tert-Butyl acetate	540-88-5	200	950	–	–	–	–	–
Butyl acrylate	141-32-2	10	55	–	–	–	–	–
n-Butyl alcohol (n-butanol)	71-36-3	–	–	–	–	50	150	x
sec-Butyl alcohol (sec-butanol)	78-92-2	100	305	–	–	–	–	–
tert-Butyl alcohol (tert-butanol)	75-65-0	100	300	150	450	–	–	–
Butylamine	109-73-9	–	–	–	–	5	15	x
tert-Butyl chromate (as CrO <sub>3</sub> )	1189-85-1	–	–	–	–	–	0.1	x
n-Butyl glycidyl ether (BGE)	2426-08-6	25	135	–	–	–	–	–

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n-Butyl lactate	138-22-7	5	25	—	—	—	—	—
Butyl mercaptan	109-79-5	0.5	1.5	—	—	—	—	—
o-sec-Butylphenol	89-72-5	5	30	—	—	—	—	x
p-tert-Butyltoluene	98-51-1	10	60	20	120	—	—	—
Cadmium; see R 325.51851 et seq. <sup>F</sup>	7440-43-9	—	0.005	—	—	—	—	—
Calcium carbonate, Respirable dust	1317-65-3	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Calcium cyanamide	156-62-7	—	0.5	—	—	—	—	—
Calcium hydroxide	1305-62-0	—	5	—	—	—	—	—
Calcium oxide	1305-78-8	—	5	—	—	—	—	—
Calcium silicate, Respirable dust	1344-95-2	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Calcium sulfate, Respirable dust	7778-18-9	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Camphor, synthetic	76-22-2	—	2	—	—	—	—	—
Caprolactam, Dust	105-60-2	—	1	—	3	—	—	—
Vapor		5	20	10	40	—	—	—
Captafol (Difolatan <sup>R</sup> )	2425-06-1	—	0.1	—	—	—	—	—
Captan	133-06-2	—	5	—	—	—	—	—
Carbaryl (Sevin <sup>R</sup> )	63-25-2	—	5	—	—	—	—	—
Carbofuran (Furadan <sup>R</sup> )	1563-66-2	—	0.1	—	—	—	—	—
Carbon black	1333-86-4	—	3.5	—	—	—	—	—
Carbon dioxide	124-38-9	10,000	18,000	30,000	54,000	—	—	—
Carbon disulfide	75-15-0	4	12	12	36	—	—	x
Carbon monoxide	630-08-0	35	40	—	—	200	229	—
Carbon tetrabromide	558-13-4	0.1	1.4	0.3	4	—	—	—
Carbon tetrachloride (Tetrachloromethane)	56-23-5	2	12.6	—	—	—	—	x
Carbonyl fluoride	353-50-4	2	5	5	15	—	—	—
Catechol (Pyrocatechol)	120-80-9	5	20	—	—	—	—	x
Cellulose, Respirable dust	9004-34-6	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Cesium hydroxide	21351-79-1	—	2	—	—	—	—	—
Chlordane	57-74-9	—	0.5	—	—	—	—	x

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Chlorinated camphene (Toxaphene)	8001-35-2	—	0.5	—	1	—	—	x
Chlorinated diphenyl oxide	55720-99-5 or 31242-93-0	—	0.5	—	—	—	—	—
Chlorine	7782-50-5	0.5	1.5	1	3	—	—	—
Chlorine dioxide	10049-04-4	0.1	0.3	0.3	0.9	—	—	—
Chlorine trifluoride	7790-91-2	—	—	—	—	0.1	0.4	—
Chloroacetaldehyde	107-20-0	—	—	—	—	1	3	—
2-Chloroacetophenone (Phenacyl chloride)	532-27-4	0.5	0.3	—	—	—	—	—
Chloroacetyl chloride	79-04-9	0.5	0.2	—	—	—	—	—
Chlorobenzene	108-90-7	75	350	—	—	—	—	—
o-Chlorobenzylidene malononitrile	2698-41-1	—	—	—	—	0.05	0.4	x
Chlorobromomethane	74-97-5	200	1050	—	—	—	—	—
2-Chloro-1,3-butadiene; see _Chloroprene								
Chlorodifluoromethane	75-45-6	1000	3500	—	—	—	—	—
Chlorodiphenyl (42% Chlorine) (PCB)	53469-21-9	—	1	—	—	—	—	x
Chlorodiphenyl (54% Chlorine) (PCB)	11097-69-1	—	0.5	—	—	—	—	x
1-Chloro-2,3-epoxy propane; see Epichlorohydrin								
2-Chloroethanol; see Ethylene chlorohydrin								
Chloroethylene; see Vinyl chloride								
Chloroform (Trichloromethane)	67-66-3	2	9.78	—	—	—	—	—
bis(Chloromethyl) ether; see O.H. Rule 2301(4) <sup>F</sup>	542-88-1							

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Chloromethyl methyl ether; see O.H. rule 2301(8)	107-30-2							
1-Chloro-1-nitropropane	600-25-9	4	10	–	–	–	–	–
Chloropentafluoro ethane	76-15-3	1000	6320	–	–	–	–	–
Chloropicrin	76-06-2	0.1	0.7	–	–	–	–	–
beta-Chloroprene	126-99-8	10	35	–	–	–	–	x
o-Chlorostyrene	2039-87-4	50	285	75	428	–	–	–
o-Chlorotoluene	95-49-8	50	250	–	–	–	–	–
2-Chloro-6-(trichloromethyl) pyridine, Respirable dust	1929-82-4	–	5	–	–	–	–	–
Total dust		–	15	–	–	–	–	–
Chlorpyrifos	2921-88-2	–	0.2	–	–	–	–	x
Chromic acid and chromates (as CrO <sub>3</sub> )	Varies with compound	–	–	–	–	–	0.1	–
Chromium (II) compounds (as Cr)	7440-47-3	–	0.5	–	–	–	–	–
Chromium (III) compounds (as Cr)	7440-47-3	–	0.5	–	–	–	–	–
Chromium metal (as Cr)	7440-47-3	–	1	–	–	–	–	–
Chrysene; see Coal tar pitch volatile								
Clopidol	2971-90-6	–	5	–	–	–	–	–
Respirable dust		–	15	–	–	–	–	–
Total dust		–	15	–	–	–	–	–
Coal dust (less than 5% SiO <sub>2</sub> )	–	–	2	–	–	–	–	–
Respirable quartz dust		–	2	–	–	–	–	–
Coal dust (greater than or equal to 5% SiO <sub>2</sub> ), Respirable dust	–	–	0.1	–	–	–	–	–
Coal tar pitch volatile (as benzene solubles) anthracene, BaP, phenanthrene, acridine, chrysene, pyrene	65996-93-2	–	0.2	–	–	–	–	–
Cobalt metal, dust, and fume (as Co)	7440-48-4	–	0.05	–	–	–	–	–

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Cobalt carbonyl (as Co)	10210-68-1	–	0.1	–	–	–	–	–
Cobalt hydrocarbonyl (as Co)	16842-03-8	–	0.1	–	–	–	–	–
Coke oven emissions; see R 325.50101 et seq. <sup>F</sup>	–		0.15 (150 ug/m <sup>3</sup> )					
Copper, Dusts and mists (as Cu) Fume (as Cu)	7440-50-8	– –	1 0.1	– –	– –	– –	– –	– –
Cotton dust (raw)	–		1	–	–	–	–	–
Crag herbicide (Sesone) Total dust Respirable fraction	136-78-7	– –	10 5	– –	– –	– –	– –	– –
Cresol, all isomers	1319-77-3	5	22	–	–	–	–	x
Crotonaldehyde	123-73-9 4170-30-3	2	6	–	–	–	–	–
Crufomate	299-86-5	–	5	–	–	–	–	–
Cumene	98-82-8	50	245	–	–	–	–	x
Cyanamide	420-04-2	–	2	–	–	–	–	–
Cyanides (as CN)	Varies with compound	–	5	–	–	–	–	x
Cyanogen	460-19-5	10	20	–	–	–	–	–
Cyanogen chloride	506-77-4	–	–	–	–	0.3	0.6	–
Cyclohexane	110-82-7	300	1050	–	–	–	–	–
Cyclohexanol	108-93-0	50	200	–	–	–	–	x
Cyclohexanone	108-94-1	25	100	–	–	–	–	x
Cyclohexene	110-83-8	300	1015	–	–	–	–	–
Cyclohexylamine	108-91-8	10	40	–	–	–	–	–
Cyclonite	121-82-4	–	1.5	–	–	–	–	x
Cyclopentadiene	542-92-7	75	200	–	–	–	–	–
Cyclopentane	287-92-3	600	1720	–	–	–	–	–
Cyhexatin	13121-70-5	–	5	–	–	–	–	–
2,4-D (Dichlorophenoxya cetic acid)	94-75-7	–	10	–	–	–	–	–
Decaborane	17702-41-9	0.05	0.3	0.15	0.9	–	–	x
Demeton (Systox <sup>R</sup> )	8065-48-3	–	0.1	–	–	–	–	x
Diacetone alcohol (4-Hydroxy-4- methyl-2- pentanone)	123-42-2	50	240	–	–	–	–	–
1,2- Diaminoethane; see Ethylenediamine								



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Diazinon	333-41-5	—	0.1	—	—	—	—	x
Diazomethane	334-88-3	0.2	0.4	—	—	—	—	—
Diborane	19287-45-7	0.1	0.1	—	—	—	—	—
2-N-Dibutylaminoethanol	102-81-8	2	14	—	—	—	—	—
Dibutyl phosphate	107-66-4	1	5	2	10	—	—	—
Dibutyl phthalate	84-74-2	—	5	—	—	—	—	—
Dichloroacetylene	7572-29-4	—	—	—	—	0.1	0.4	—
o-Dichlorobenzene	95-50-1	—	—	—	—	50	300	—
p-Dichlorobenzene	106-46-7	75	450	110	675	—	—	—
3,3'-Dichlorobenzidine; see O.H. rule 2301(5) <sup>F</sup>	91-94-1							
Dichlorodifluoromethane	75-71-8	1000	4950	—	—	—	—	—
1,3-Dichloro-5,5-dimethyl hydantoin	118-52-5	—	0.2	—	0.4	—	—	—
Dichlorodiphenyltri-chloroethane (DDT)	50-29-3	—	1	—	—	—	—	x
1,1-Dichloroethane	75-34-3	100	400	—	—	—	—	—
1,2-Dichloroethylene	540-59-0	200	790	—	—	—	—	—
Dichloroethyl ether	111-44-4	5	30	10	60	—	—	x
Dichlorofluoromethane	75-43-4	10	40	—	—	—	—	—
Dichloromethane; see Methylene chloride								
1,1-Dichloro-1-nitroethane	594-72-9	2	10	—	—	—	—	—
1,2-Dichloropropane; see Propylene dichloride								
1,3-Dichloropropene	542-75-6	1	5	—	—	—	—	x
2,2-Dichloropropionic acid	75-99-0	1	6	—	—	—	—	—
Dichlorotetrafluoroethane	76-14-2	1000	7000	—	—	—	—	—
Dichlorvos (DDVP)	62-73-7	—	1	—	—	—	—	x
Dicrotophos	141-66-2	—	0.25	—	—	—	—	x
Dicyclopentadiene	77-73-6	5	30	—	—	—	—	—
Dicyclopentadieny	102-54-5							

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1 iron, Respirable dust Total dust		– –	5 10	– –	– –	– –	– –	– –
Dieldrin	60-57-1	–	0.25	–	–	–	–	x
Diethanolamine	111-42-2	3	15	–	–	–	–	–
Diethylamine	109-89-7	10	30	25	75	–	–	–
2- Diethylaminoetha nol	100-37-8	10	50	–	–	–	–	x
Diethylene triamine	111-40-0	1	4	–	–	–	–	x
Diethyl ether; see Ethyl ether								
Diethyl ketone	96-22-0	200	705	–	–	–	–	–
Diethyl phthalate	84-66-2	–	5	–	–	–	–	–
Difluorodibromom ethane	75-61-6	100	860	–	–	–	–	–
Diglycidyl ether (DGE)	2238-07-5	0.1	0.5	–	–	–	–	–
Dihydroxybenzene ; see Hydroquinone								
Diisobutyl ketone	108-83-8	25	150	–	–	–	–	–
Diisopropylamine	108-18-9	5	20	–	–	–	–	x
4- Dimethylaminoaz obenzene; see O.H. rule 2301(6) <sup>F</sup>	60-11-7							
Dimethoxymethan e; see Methylal								
Dimethyl acetamide	127-19-5	10	35	–	–	–	–	x
Dimethylamine	124-40-3	10	18	–	–	–	–	–
Dimethylaminobe nzene; see Xylidine								
Dimethylaniline (N,N- Dimethylaniline)	121-69-7	5	25	10	50	–	–	x
Dimethylbenzene; see Xylene								
Dimethyl-1,2- dibromo-2,2- Dichloroethyl phosphate	300-76-5	–	3	–	–	–	–	x
Dimethylformami de	68-12-2	10	30	–	–	–	–	x
2,6-Dimethyl-4- heptanone; see Diisobutyl ketone								

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1,1-Dimethylhydrazine	57-14-7	0.5	1	—	—	—	—	x
Dimethylphthalate	131-11-3	—	5	—	—	—	—	—
Dimethyl sulfate	77-78-1	0.1	0.5	—	—	—	—	x
Dinitolmide (3,5-Dinitro-o-toluamide)	148-01-6	—	5	—	—	—	—	—
Dinitrobenzene (all isomers) (meta-) (ortho) (para-)	99-65-0 528-29-0 100-25-4	—	1	—	—	—	—	x
Dinitro-o-cresol	534-52-1	—	0.2	—	—	—	—	x
Dinitrotoluene	25321-14-6	—	1.5	—	—	—	—	x
Dioxane (Diethylene dioxide)	123-91-1	25	90	—	—	—	—	x
Dioxathion (Delnav)	78-34-2	—	0.2	—	—	—	—	x
Diphenyl (Biphenyl)	92-52-4	0.2	1	—	—	—	—	—
Diphenylamine	122-39-4	—	10	—	—	—	—	—
Diphenylmethane diisocyanate; see Methylene bisphenyl isocyanate								
Dipropylene glycol methyl ether	34590-94-8	100	600	150	900	—	—	x
Dipropyl ketone	123-19-3	50	235	—	—	—	—	—
Diquat	2768-72-9	—	0.5	—	—	—	—	—
Di-sec-octyl phthalate [Di(2-ethylhexyl)phthalate]	117-81-7	—	5	—	10	—	—	—
Disulfiram	97-77-8	—	2	—	—	—	—	—
Disulfoton	298-04-4	—	0.1	—	—	—	—	x
2,6-Di-tert-butyl-p-cresol (Butylated hydroxytoluene)	128-37-0	—	10	—	—	—	—	—
Diuron	330-54-1	—	10	—	—	—	—	—
Divinyl benzene	1321-74-0	10	50	—	—	—	—	—
Emery, Respirable dust Total dust	1302-74-5	— —	5 10	— —	— —	— —	— —	— —
Endosulfan	115-29-7	—	0.1	—	—	—	—	x
Endrin	72-20-8	—	0.1	—	—	—	—	x
Epichlorohydrin	106-89-8	2	8	—	—	—	—	x

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EPN	2104-64-5	—	0.5	—	—	—	—	x
1,2-Epoxypropane; see Propylene oxide								
2,3-Epoxy-1- propanol; see Glycidol								
Ethanethiol; see Ethyl mercaptan								
Ethanolamine	141-43-5	3	8	6	15	—	—	—
Ethion	563-12-2	—	0.4	—	—	—	—	x
2-Ethoxyethanol (EGEE)	110-80-5	200	740	—	—	—	—	x
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	100	540	—	—	—	—	x
Ethyl acetate	141-78-6	400	1400	—	—	—	—	—
Ethyl acrylate	140-88-5	5	20	25	100	—	—	x
Ethyl alcohol (Ethanol)	64-17-5	1000	1900	—	—	—	—	—
Ethylamine	75-04-7	10	18	—	—	—	—	—
Ethyl amyl ketone (5-Methyl-3- heptanone)	541-85-5	25	130	—	—	—	—	—
Ethyl benzene	100-41-4	100	435	125	545	—	—	—
Ethyl bromide	74-96-4	200	890	250	1100	—	—	—
Ethyl butyl ketone (3-Heptanone)	106-35-4	50	230	—	—	—	—	—
Ethyl chloride	75-00-3	1000	2600	—	—	—	—	—
Ethyl ether	60-29-7	400	1200	—	500	1500	—	—
Ethyl formate	109-94-4	100	300	—	—	—	—	—
Ethyl mercaptan	75-08-1	0.5	1	—	—	—	—	—
Ethyl silicate	78-10-4	10	85	—	—	—	—	—
Ethylene chlorohydrin	107-07-3	—	—	—	—	1	3	x
Ethylenediamine	107-15-3	10	25	—	—	—	—	—
Ethylene dibromide	106-93-4	See table G-2						
Ethylene dichloride	107-06-2	1	4	2	8	—	—	—
Ethylene glycol	107-21-1	—	—	—	—	50	125	—
Ethylene glycol dinitrate (EGDN)	628-96-6	—	—	—	0.1	—	—	x
Ethylene glycol methyl acetate (EGME); see Methyl cellosolve acetate								
Ethyleneimine; see O.H. rule	151-56-4							

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2301(7)								
Ethylene oxide; see R 325.51151 et seq. <sup>F</sup>	75-21-8	1	1.8	5	9.0	-	-	-
Ethylidene chloride; see 1,1- Dichloroethane								
Ethylidene norbornene	16219-75-3	-	-	-	-	5	25	-
N- Ethylmorpholine	100-74-3	5	23	-	-	-	-	x
Fenamiphos	22224-92-6	-	0.1	-	-	-	-	x
Fensulfothion (Dasanit)	115-90-2	-	0.1	-	-	-	-	-
Fenthion	55-38-9	-	0.2	-	-	-	-	x
Ferbam, Dust	14484-64-1	-	10	-	-	-	-	-
Ferrovandium dust	12604-58-9	-	1	-	3	-	-	-
Fluorides (as F)	Varies with compound	-	2.5	-	-	-	-	-
Fluorine	7782-41-4	0.1	0.2	-	-	-	-	-
Fluorotrichlorome thane (Trichlorofluorome thane)	75-69-4	-	-	-	-	1000	5600	-
Fonofos	944-22-9	-	0.1	-	-	-	-	x
Formaldehyde; see R 325.51451 et seq. <sup>F</sup>	50-00-0	0.75	0.9	2	2.5			
Formamide	75-12-7	20	30	30	45	-	-	-
Formic acid	64-18-6	5	9	-	-	-	-	-
Furfural	98-01-1	2	8	-	-	-	-	x
Furfuryl alcohol	98-00-0	10	40	15	60	-	-	x
Gasoline	8006-61-9	300	900	500	1500	-	-	-
Germanium tetrahydride	7782-65-2	0.2	0.6	-	-	-	-	-
Glutaraldehyde	111-30-8	-	-	-	-	0.2	0.8	-
Glycerin, Respirable mist total mist	56-81-5	- -	5 10	- -	- -	- -	- -	- -
Glycidol	556-52-5	25	75	-	-	-	-	-
Glycol monoethyl ether; see 2- Ethoxyethanol								
Grain dust (Oat, wheat, barley)	-	-	10	-	-	-	-	-
Graphite, natural Respirable dust	7782-42-5	-	2.5	-	-	-	-	-
Graphite, synthetic,	-	-	5	-	-	-	-	-

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Respirable dust		–	10	–	–	–	–	–
Total dust								
Guthion <sup>R</sup> ; see Azinphos methyl								
Gypsum, Respirable dust	13397-24-5	–	5	–	–	–	–	–
total dust		–	15	–	–	–	–	–
Hafnium	7440-58-6	–	0.5	–	–	–	–	–
Heptachlor	76-44-8	–	0.5	–	–	–	–	x
Heptane (n- Heptane)	142-82-5	400	1600	500	2000	–	–	–
Hexachlorobutadi- ene	87-68-3	–	0.02	0.24	–	–	–	–
Hexachlorocyclohe- ptadiene	77-47-4	0.01	0.1	–	–	–	–	–
Hexachloroethane	67-72-1	1	10	–	–	–	–	x
Hexachloronaphthal- ene	1335-87-1	–	0.2	–	–	–	–	x
Hexafluoroacetone	684-16-2	0.1	0.7	–	–	–	–	x
n-Hexane	110-54-3	50	180	–	–	–	–	–
Hexane isomers	Varies with compound	500	1800	100 0	3600	–	–	–
2-Hexanone (Methyl n-butyl ketone)	591-78-6	5	20	–	–	–	–	–
Hexone (Methyl isobutyl ketone)	108-10-1	50	205	75	300	–	–	–
sec-Hexyl acetate	108-84-9	50	300	–	–	–	–	–
Hexylene glycol	107-41-5	–	–	–	–	25	125	–
Hydrazine	302-01-2	0.1	0.1	–	–	–	–	x
Hydrogenated terphenyls	61788-32-7	0.5	5	–	–	–	–	–
Hydrogen bromide	10035-10-6	–	–	–	–	3	10	–
Hydrogen chloride	7647-01-0	–	–	–	–	5	7	–
Hydrogen cyanide	74-90-8	–	–	4.7	5	–	–	x
Hydrogen fluoride (as F)	7664-39-3	3	–	6	–	–	–	–
Hydrogen peroxide	7722-84-1	1	1.4	–	–	–	–	–
Hydrogen selenide (as Se)	7783-07-5	0.05	0.2	–	–	–	–	–
Hydrogen sulfide	7783-06-4	10	14	15	21	–	–	–
Hydroquinone	123-31-9	–	2	–	–	–	–	–
2-Hydroxypropyl acrylate	999-61-1	0.5	3	–	–	–	–	x
Indene	95-13-6	10	45	–	–	–	–	–
Indium and compounds (as In)	7440-74-6	–	0.1	–	–	–	–	–
Iodine	7553-56-2	–	–	–	–	0.1	1	–
Iodoform	75-47-8	0.6	10	–	–	–	–	–
Iron oxide fume	1309-37-1	–	10	–	–	–	–	–

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Iron pentacarbonyl (as Fe)	13463-40-6	0.1	0.8	0.2	1.6	–	–	–
Iron salts (soluble) (as Fe)	Varies with compound	–	1	–	–	–	–	–
Isoamyl acetate	123-92-2	100	525	–	–	–	–	–
Isoamyl alcohol (primary and secondary)	123-51-3	100	360	125	450	–	–	–
Isobutyl acetate	110-19-0	150	700	–	–	–	–	–
Isobutyl alcohol	78-83-1	50	150	–	–	–	–	–
Isooctyl alcohol	26952-21-6	50	270	–	–	–	–	x
Isophorone	78-59-1	4	23	–	–	–	–	–
Isophorone diisocyanate	4098-71-9	0.005	–	0.02	–	–	–	x
2-Isopropoxyethanol	109-59-1	25	105	–	–	–	–	–
Isopropyl acetate	108-21-4	250	950	310	1185	–	–	–
Isopropyl alcohol	67-63-0	400	980	500	1225	–	–	–
Isopropylamine	75-31-0	5	12	10	24	–	–	–
N-Isopropylaniline	768-52-5	2	10	–	–	–	–	x
Isopropyl ether	108-20-3	500	2100	–	–	–	–	–
Isopropyl glycidyl ether (IGE)	4016-14-2	50	240	75	360	–	–	–
Kaolin, Respirable dust	–	–	5	–	–	–	–	–
Total dust	–	–	10	–	–	–	–	–
Ketene	463-51-4	0.5	0.9	1.5	3	–	–	–
Lead inorganic (as Pb); see R 325.51901 et seq. <sup>F</sup>	7439-92-1	–	0.05 (50 ug/m <sup>3</sup> )	–	–	–	–	–
Limestone, (calcium carbonate) Respirable dust	1317-65-3	–	5	–	–	–	–	–
Total dust	–	–	15	–	–	–	–	–
Lindane	58-89-9	–	0.5	–	–	–	–	x
Lithium hydride	7580-67-8	–	0.025	–	–	–	–	–
L.P.G. (Liquified petroleum gas)	68476-85-7	1000	1800	–	–	–	–	–
Magnesite, Respirable dust	546-93-0	–	5	–	–	–	–	–
Total dust	–	–	15	–	–	–	–	–
Magnesium oxide fume, Total particulate	1309-48-4	–	10	–	–	–	–	–
Malathion dust	121-75-5	–	10	–	–	–	–	x
Maleic anhydride	108-31-6	1	–	–	–	–	–	–
Manganese, Compounds (as	7439-96-5	–	–	–	–	–	5	–

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Mn) Fume (as Mn)		-	1	-	3	-	-	-
Manganese cyclopentadienyl tricarbonyl (as Mn)	12079-65-1	-	0.1	-	-	-	-	x
Manganese tetroxide (as Mn)	1317-35-7	-	1	-	-	-	-	-
Marble, (calcium carbonate) Respirable dust Total dust	1317-65-3	- -	5 15	- -	- -	- -	- -	- -
Mercury Inorganic and aryl compounds (As Hg) Organic compounds (as Hg) Vapor (as Hg)	7439-97-6	- - -	- 0.01 0.05	- - -	- 0.03 -	- - -	0.1 - -	x x x
Mesityl oxide	141-79-7	15	60	25	100	-	-	-
Methacrylic acid	79-41-4	20	70	-	-	-	-	x
Methanethiol; see Methyl mercaptan								
Methomyl (Lannate)	16752-77-5	-	2.5	-	-	-	-	-
Methoxychlor dust	72-43-5	-	10	-	-	-	-	-
2-Methoxyethanol; see Methyl cellosolve								
4-Methoxyphenol	150-76-5	-	5	-	-	-	-	-
Methyl acetate	79-20-9	200	610	250	760	-	-	-
Methyl acetylene (Propyne)	74-99-7	1000	1650	-	-	-	-	-
Methyl acetylene- propadiene mixture (MAPP)	-	1000	1800	125 0	2250	-	-	-
Methyl acrylate	96-33-3	10	35	-	-	-	-	x
Methylacrylonitril e	126-98-7	1	3	-	-	-	-	x
Methylal (Dimethoxymetha ne)	109-87-5	1000	3100	-	-	-	-	-
Methyl alcohol	67-56-1	200	260	250	325	-	-	x
Methylamine	74-89-5	10	12	-	-	-	-	-
Methyl amyl alcohol; see Methyl isobutyl carbinol								
Methyl n-amyl ketone	110-43-0	100	465	-	-	-	-	-



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Methyl bromide	74-83-9	5	20	—	—	—	—	x
Methyl n-butyl ketone; see 2-Hexanone								
Methyl cellosolve (2-Methoxyethanol)	109-86-4	25	80	—	—	—	—	x
Methyl cellosolve acetate (2-Methoxyethyl acetate)	110-49-6	25	120	—	—	—	—	x
Methyl chloride	74-87-3	50	105	100	210	—	—	—
Methyl chloroform (1,1,1-Trichloroethane)	71-55-6	350	1900	450	2450	—	—	—
Methyl 2-cyanoacrylate	137-05-3	2	8	4	16	—	—	—
Methylcyclohexane	108-87-2	400	1600	—	—	—	—	—
Methylcyclohexanol	25639-42-3	50	235	—	—	—	—	—
o-Methylcyclohexanone	583-60-8	50	230	75	345	—	—	x
Methylcyclopentadienyl Manganese tricarbonyl (as Mn)	12108-13-3	—	0.2	—	—	—	—	x
Methyl demeton	8022-00-2	—	0.5	—	—	—	—	x
4,4'-Methylene bis (2-chloroaniline) (MBOCA)	101-14-4	0.02	0.22	—	—	—	—	x
Methylene bis (4-cyclohexylisocyanate)	5124-30-1	—	—	—	—	0.01	0.11	—
Methylene bisphenyl isocyanate (MDI)	101-68-8	—	—	—	—	0.02	0.2	—
Methylene chloride see R 325.51651 et seq. <sup>F</sup>	75-09-2	25	87	125	434			
Methylenedianiline (MDA); see R 325.50051 et seq. <sup>F</sup>	101-77-9	10 ppb* *	0.08 mg/m <sup>3</sup>	100 ppb**	0.8 mg/m <sup>3</sup>	-	-	-
Methyl ethyl ketone (MEK); see 2-Butanone								
Methyl ethyl								

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ketone peroxide (MEKP)	1338-23-4	—	—	—	—	0.7	5	—
Methyl formate	107-31-3	100	250	150	375	—	—	—
Methyl hydrazine	60-34-4	—	—	—	—	0.2	0.35	x
Methyl iodide	74-88-4	2	10	—	—	—	—	x
Methyl isoamyl ketone	110-12-3	50	240	—	—	—	—	—
Methyl isobutyl carbinol	108-11-2	25	100	40	165	—	—	x
Methyl isobutyl ketone; see Hexone								
Methyl isocyanate (MIC)	624-83-9	0.02	0.05	—	—	—	—	x
Methyl isopropyl ketone	563-80-4	200	705	—	—	—	—	—
Methyl mercaptan	74-93-1	0.5	1	—	—	—	—	—
Methyl methacrylate	80-62-6	100	410	—	—	—	—	
Methyl parathion	298-00-0	—	0.2	—	—	—	—	x
Methyl propyl ketone; see 2-Pentanone								
Methyl silicate	681-84-5	1	6	—	—	5	30	—
alpha-Methyl styrene	98-83-9	50	240	100	485	—	—	—
Metribuzin	21087-64-9	—	5	—	—	—	—	—
Mica; see Silicates								
Molybdenum, (as Mo)	7439-98-7	—	10	—	—	—	—	—
Insoluble compounds		—	5	—	—	—	—	—
Soluble compounds								
Monocrotophos (Azodrin <sup>®</sup> )	6923-22-4	—	0.25	—	—	—	—	—
Monomethyl aniline	100-61-8	0.5	2	—	—	—	—	x
Morpholine	110-91-8	20	70	30	105	—	—	x
Naphtha (Coal tar)	8030-30-6	100	400	—	—	—	—	—
Naphthalene	91-20-3	10	50	15	75	—	—	—
alpha-Naphthylamine; see O.H. rule 2301(10) <sup>F</sup>	134-32-7							
beta-Naphthylamine; see O.H. rule 2301(11) <sup>F</sup>	91-59-8							
Nickel carbonyl (as Ni)	13463-39-3	0.001	0.007	—	—	—	—	—

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Nickel, Metal and insoluble compounds (as Mi) Soluble compounds (as ni)	7440-02-0	- -	1 0.1	- -	- -	- -	- -	- -
Nicotine	54-11-5	—	0.5	—	—	—	—	x
Nitric acid	7697-37-2	2	5	4	10	—	—	—
Nitric oxide	10102-43-9	25	30	—	—	—	—	—
p-Nitroaniline	100-01-6	—	3	—	—	—	—	x
Nitrobenzene	98-95-3	1	5	—	—	—	—	x
p-Nitrochlorobenzene	100-00-5	—	1	—	—	—	—	x
4-Nitrodiphenyl; see O.H. rule 2301(12) <sup>F</sup>	92-93-3							
Nitroethane	79-24-3	100	310	—	—	—	—	—
Nitrogen dioxide	10102-44-0	—	—	1	1.8	—	—	—
Nitrogen trifluoride	7783-54-2	10	29	—	—	—	—	—
Nitroglycerin	55-63-0	—	—	—	0.1	—	—	x
Nitromethane	75-52-5	100	250	—	—	—	—	—
1-Nitropropane	108-03-2	25	90	—	—	—	—	—
2-Nitropropane	79-46-9	10	35	—	—	—	—	—
N-Nitrosodimethylamine; see O.H. rule 2301(13) <sup>F</sup>	62-75-9							
Nitrotoluene o-isomer m-isomer p-isomer	88-72-2 99-08-1 99-99-0	2	11	—	—	—	—	x
Nitrotrichloromethane; see Chloropicrin								
Nonane	111-84-2	200	1050	—	—	—	—	—
Octachloronaphthalene	2234-13-1	—	0.1	—	0.3	—	—	x
Octane	111-65-9	300	1450	375	1800	—	—	—
Oil mist, mineral	8012-95-1	—	5	—	—	—	—	—
Osmium tetroxide (as Os)	20816-12-0	—	0.002	—	0.006	—	—	—
Oxalic acid	144-62-7	—	1	—	2	—	—	—
Oxygen difluoride	7783-41-7	—	—	—	—	0.05	0.1	—
Ozone	10028-15-6	0.1	0.2	0.3	0.6	—	—	—
Paraffin wax fume	8002-74-2	—	2	—	—	—	—	—
Paraquat, respirable dust	1910-42-5 2074-50-2 4685-14-7	—	0.1	—	—	—	—	x

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Parathion	56-38-2	—	0.1	—	—	—	—	x
Particulates not otherwise regulated,	—	—	5	—	—	—	—	—
Respirable dust	—	—	15	—	—	—	—	—
Total dust								
Pentaborane	19624-22-7	0.00 5	0.01	0.01 5	0.03	—	—	—
Pentachloronapht halene	1321-64-8	—	0.5	—	—	—	—	x
Pentachlorophenol	87-86-5	—	0.5	—	—	—	—	x
Pentaerythritol, Respirable dust	115-77-5	—	5	—	—	—	—	—
Total dust		—	10	—	—	—	—	—
Pentane	109-66-0	600	1800	750	2250	—	—	—
2-Pentanone (Methyl propyl ketone)	107-87-9	200	700	250	875	—	—	—
Perchloroethylene (Tetrachloroethyle ne)	127-18-4	25	170	—	—	—	—	—
Perchloromethyl mercaptan	594-42-3	0.1	0.8	—	—	—	—	—
Perchloryl fluoride	7616-94-6	3	14	6	28	—	—	—
Perlite Respirable dust	93763-70-3	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Petroleum distillates (Naphtha) (Rubber solvent)		400	1600	—	—	—	—	—
Phenol	108-95-2	5	19	—	—	—	—	x
Phenothiazine	92-84-2	—	5	—	—	—	—	x
p- Phenylenediamine	106-50-3	—	0.1	—	—	—	—	x
Phenyl ether, vapor	101-84-8	1	7	—	—	—	—	—
Phenyl ether- biphenyl mixture, vapor	—	1	7	—	—	—	—	—
Phenylethylene; see Styrene								
Phenyl glycidyl ether (PGE)	122-60-1	1	6	—	—	—	—	—
Phenylhydrazine	100-63-0	5	20	10	45	—	—	x
Phenyl mercaptan	108-98-5	0.5	2	—	—	—	—	—
Phenylphosphine	638-21-1	—	—	—	—	0.05	0.25	—
Phorate	298-02-2	—	0.05	—	0.2	—	—	x
Phosdrin (Mevinphos <sup>®</sup> )	7786-34-7	—	0.1	—	0.3	—	—	x
Phosgene (Carbonyl	75-44-5	0.1	0.4	—	—	—	—	—

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chloride)								
Phosphine	7803-51-2	0.3	0.4	1	1	–	–	–
Phosphoric acid	7664-38-2	–	1	–	3	–	–	–
Phosphorus (yellow)	7723-14-0	–	0.1	–	–	–	–	–
Phosphorus oxychloride	10025-87-3	0.1	0.6	–	–	–	–	–
Phosphorus pentachloride	10026-13-8	–	1	–	–	–	–	–
Phosphorus pentasulfide	1314-80-3	–	1	–	3	–	–	–
Phosphorus trichloride	7719-12-2	0.2	1.5	0.5	3	–	–	–
Phthalic anhydride	85-44-9	1	6	–	–	–	–	–
m-Phthalodinitrile	626-17-5	–	5	–	–	–	–	–
Picloram, Respirable dust	1918-02-1	–	5	–	–	–	–	–
Total dust		–	10	–	–	–	–	–
Picric acid	88-89-1	–	0.1	–	–	–	–	x
Piperazine dihydrochloride	142-64-3	–	5	–	–	–	–	–
Pindone (2-Pivalyl-1,3-indandione)	83-26-1	–	0.1	–	–	–	–	–
Plaster of Paris, (Calcium sulfate) Respirable dust	26499-65-0	–	5	–	–	–	–	–
Total dust		–	15	–	–	–	–	–
Platinum (as Pt) Metal	7440-06-4	–	1	–	–	–	–	–
Soluble salts		–	0.002	–	–	–	–	–
Portland cement, Respirable dust	65997-15-1	–	5	–	–	–	–	–
Total dust		–	10	–	–	–	–	–
Potassium hydroxide	1310-58-3	–	–	–	–	–	2	–
Propane	74-98-6	1000	1800	–	–	–	–	–
Propargyl alcohol	107-19-7	1	2	–	–	–	–	x
beta-Propiolactone; see O.H. rule 2301(14) <sup>F</sup>	57-57-8							
Propionic acid	79-09-4	10	30	–	–	–	–	–
Propoxur (Baygon)	114-26-1	–	0.5	–	–	–	–	–
n-Propyl acetate	109-60-4	200	840	250	1050	–	–	–
n-Propyl alcohol	71-23-8	200	500	250	625	–	–	–
n-Propyl nitrate	627-13-4	25	105	40	170	–	–	–
Propylene dichloride	78-87-5	75	350	110	510	–	–	–
Propylene glycol dinitrate	6423-43-4	0.05	0.3	–	–	–	–	–

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Propylene glycol Monomethyl ether	107-98-2	100	360	150	540	–	–	–
Propylene imine	75-55-8	2	5	–	–	–	–	x
Propylene oxide	75-56-9	20	50	–	–	–	–	–
Propyne; see Methyl acetylene								
Pyrethrum	8003-34-7	–	5	–	–	–	–	–
Pyridine	110-86-1	5	15	–	–	–	–	–
Quinone	106-51-4	0.1	0.4	–	–	–	–	–
Resorcinol	108-46-3	10	45	20	90	–	–	–
Rhodium, Insoluble compounds (as Rh) Metal fume (as Rh) Soluble compounds (as Rh)	7440-16-6	– – –	0.1 0.1 0.001	– – –	– – –	– – –	– – –	– – –
Ronnel	299-84-3	–	10	–	–	–	–	–
Rosin core solder pyrolysis products, as formaldehyde	–	–	0.1	–	–	–	–	–
Rotenone	83-79-4	–	5	–	–	–	–	–
Rouge, Respirable dust Total dust	–	– –	5 10	– –	– –	– –	– –	– –
Selenium compounds (as Se)	7782-49-2	–	0.2	–	–	–	–	–
Selenium hexafluoride (as Se)	7783-79-1	0.05	0.4	–	–	–	–	–
Silica, amorphous, Precipitated and gel	112926-00-8	–	6	–	–	–	–	–
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica	61790-53-2	–	6	–	–	–	–	–
Silica, crystalline cristobalite, Respirable dust	14464-46-1	–	0.05	–	–	–	–	–
Silica, crystalline quartz, Respirable dust	14808-60-7	–	0.1	–	–	–	–	–
Silica, crystalline tridymite, Respirable dust	15468-32-3	–	0.05	–	–	–	–	–
Silica, crystalline								

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tripoli, Respirable dust	1317-95-9	–	0.1	–	–	–	–	–
Silica, fused, Respirable dust	60676-86-0	–	0.1	–	–	–	–	–
Silicates (less than 1% crystalline silica)								
Mica, respirable dust	12001-26-2	–	3	–	–	–	–	–
Soapstone, total dust	–	–	6	–	–	–	–	–
Soapstone, respirable dust	–	–	3	–	–	–	–	–
Talc (containing asbestos); use asbestos limit	–	R 325.51311 et seq., Asbestos for General Industry						
Talc (containing no asbestos), respirable dust	14807-96-6	–	2	–	–	–	–	–
Tremolite	R 325.51311 et seq., Asbestos for General Industry							
Silicon, Respirable dust	7440-21-3	–	5	–	–	–	–	–
Total dust		–	10	–	–	–	–	–
Silicon carbide, Respirable dust	409-21-2	–	5	–	–	–	–	–
Total dust		–	10	–	–	–	–	–
Silicon tetrahydride	7803-62-5	5	7	–	–	–	–	–
Silver, metal and soluble compounds (as Ag)	7440-22-4	–	0.01	–	–	–	–	–
Soapstone; see Silicates								
Sodium azide (as HN <sub>3</sub> )	26628-22-8	–	–	–	–	0.1	–	x
(as NaN <sub>3</sub> )		–	–	–	–	–	0.3	x
Sodium bisulfite	7631-90-5	–	5	–	–	–	–	–
Sodium fluoroacetate	62-74-8	–	0.05	–	0.15	–	–	x
Sodium hydroxide	1310-73-2	–	–	–	–	–	2	–
Sodium	7681-57-4	–	5	–	–	–	–	–

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metabisulfite								
Starch, Respirable dust	9005-25-8	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Stibine	7803-52-3	0.1	0.5	—	—	—	—	—
Stoddard solvent	8052-41-3	100	525	—	—	—	—	—
Strychnine	57-24-9	—	0.15	—	—	—	—	—
Styrene	100-42-5	50	215	100	425	—	—	—
Subtilisins (Proteolytic enzymes)	9014-01-1	—	—	—	0.00 006 (60 min. )	—	—	—
Sucrose, Respirable dust	57-50-1	—	5	—	—	—	—	—
Total dust		—	15	—	—	—	—	—
Sulfur dioxide	7446-09-5	2	5	5	10	—	—	—
Sulfur hexafluoride	2551-62-4	1000	6000	—	—	—	—	—
Sulfuric acid	7664-93-9	—	1	—	—	—	—	—
Sulfur monochloride	10025-67-9	—	—	—	—	1	6	—
Sulfur pentafluoride	5714-22-7	—	—	—	—	0.01	0.1	—
Sulfur tetrafluoride	7783-60-0	—	—	—	—	0.1	0.4	—
Sulfuryl fluoride	2699-79-8	5	20	10	40	—	—	—
Sulprofos	35400-43-2	—	1	—	—	—	—	—
Systox <sup>®</sup> ; see Demeton								
2,4,5-T (2,4,5- trichlorophenoxya cetic acid)	93-76-5	—	10	—	—	—	—	—
Talc; see Silicates								
Tantalum, metal and oxide dust	7440-25-7	—	5	—	—	—	—	—
TEDP (Sulfotep)	3689-24-5	—	0.2	—	—	—	—	x
Tellurium and compounds (as Te)	13494-80-9	—	0.1	—	—	—	—	—
Tellurium hexafluoride (as Te)	7783-80-4	0.02	0.2	—	—	—	—	—
Temephos, Respirable dust	3383-96-8	—	5	—	—	—	—	—
Total dust		—	10	—	—	—	—	—
TEPP	107-49-3	—	0.05	—	—	—	—	x
Terphenyls	26140-60-3	—	—	—	—	0.5	5	—
1,1,1,2- Tetrachloro-2, 2-difluoro-ethane	76-11-9	500	4170	—	—	—	—	—
1,1,2,2- Tetrachloro-1,	76-12-0	500	4170	—	—	—	—	—



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2-difluoro-ethane								
1,1,2,2-Tetrachloroethane	79-34-5	1	7	–	–	–	–	x
Tetrachloroethylene; see Perchloroethylene								
Tetrachloromethane; see Carbon tetrachloride								
Tetrachloronaphthalene	1335-88-2	–	2	–	–	–	–	x
Tetraethyl lead (as Pb)	78-00-2	–	0.075	–	–	–	–	x
Tetrahydrofuran	109-99-9	200	590	250	735	–	–	–
Tetramethyl lead (as Pb)	75-74-1	–	0.075	–	–	–	–	x
Tetramethyl succinonitrile	3333-52-6	0.5	3	–	–	–	–	x
Tetranitromethane	509-14-8	1	8	–	–	–	–	–
Tetrasodium pyrophosphate	7722-88-5	–	5	–	–	–	–	–
Tetryl (2,4,6-Trinitro-Phenylmethylnitramine)	479-45-8	–	1.5	–	–	–	–	x
Thallium, soluble compounds (as Tl)	7440-28-0	–	0.1	–	–	–	–	x
4,4'-Thiobis (6-tert-butyl-m-cresol) Respirable dust Total dust	96-69-5	– –	5 10	– –	– –	– –	– –	– –
Thioglycolic acid	68-11-1	1	4	–	–	–	–	x
Thionyl chloride	7719-09-7	–	–	–	–	1	5	–
Thiram	137-26-8	–	5	–	–	–	–	–
Tin, Inorganic compounds (except oxides) (as Sn) Organic compounds (as Sn) Oxides (as Sn)	7440-31-5 7440-31-5 21651-19-4	– – –	2 0.1 2	– – –	– – –	– – –	– – –	– x –
Titanium dioxide Total dust	13463-67-7	–	10	–	–	–	–	–
Toluene	108-88-3	100	375	150	560	–	–	–
Toluene-2,4-diisocyanate (TDI)	584-84-9	0.005	0.04	0.02	0.15	–	–	–
m-Toluidine	108-44-1	2	9	–	–	–	–	x

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0-Toluidine	95-53-4	5	22	—	—	—	—	x
p-Toluidine	106-49-0	2	9	—	—	—	—	x
Toxaphene; see Chlorinated camphene								
Tremolite; see Silicates								
Tributyl phosphate	126-73-8	0.2	2.5	—	—	—	—	—
Trichloroacetic acid	76-03-9	1	7	—	—	—	—	—
1,2,4- Trichlorobenzene	120-82-1	—	—	—	—	5	40	—
1,1,1- Trichloroethane; see Methyl chloroform								
1,1,2- Trichloroethane	79-00-5	10	45	—	—	—	—	x
Trichloroethylene	79-01-6	50	270	200	1080	—	—	—
Trichloromethane; see Chloroform								
Trichloronaphthal- ene	1321-65-9	—	5	—	—	—	—	x
1,2,3- Trichloropropane	96-18-4	10	60	—	—	—	—	—
1,1,2-Trichloro- 1,2, 2-trifluoroethane	76-13-1	1000	7600	125 0	9500	—	—	—
Triethylamine	121-44-8	10	40	15	60	—	—	—
Trifluorobromome- thane	75-63-8	1000	6100	—	—	—	—	—
Trimellitic anhydride	552-30-7	0.00 5	0.04	—	—	—	—	—
Trimethylamine	75-50-3	10	24	15	36	—	—	—
Trimethyl benzene	25551-13-7	25	125	—	—	—	—	—
Trimethyl phosphite	121-45-9	2	10	—	—	—	—	—
2,4,6- Trinitrophenol; see Picric acid								
2,4,6- Trinitrophenylmet- hynitramine; see Tetryl								
2,4,6- Trinitrotoluene (TNT)	118-96-7	—	0.5	—	—	—	—	x
Triorthocresyl phosphate	78-30-8	—	0.1	—	—	—	—	x
Triphenyl amine	603-34-9	—	5	—	—	—	—	—

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Triphenyl phosphate	115-86-6	—	3	—	—	—	—	—
Tungsten Insoluble compounds (as W)	7440-33-7	—	5	—	10	—	—	—
Soluble compounds (as W)		—	1	—	3	—	—	—
Turpentine	8006-64-2	100	560	—	—	—	—	—
Uranium (as U)	7440-61-1	—	0.2	—	0.6	—	—	—
Insoluble compounds		—	0.05	—	—	—	—	—
Soluble compounds								
n-Valeraldehyde	110-62-3	50	175	—	—	—	—	—
Vanadium pentoxide	1314-62-1	—	0.05	—	—	—	—	—
Fume (as $V_2O_5$ )		—	0.05	—	—	—	—	—
Respirable dust (as $V_2O_5$ )								
Vegetable oil mists	—	—	5	—	—	—	—	—
Respirable mist		—	15	—	—	—	—	—
Total mist								
Vinyl acetate	108-05-4	10	30	20	60	—	—	—
Vinyl benzene; see Styrene								
Vinyl bromide	593-60-2	5	20	—	—	—	—	—
Vinyl chloride see 325.51401 et seq. <sup>F</sup>	75-01-4	1	2.5	5	12.8			
Vinyl cyanide; see Acrylonitrile								
Vinyl cyclohexene dioxide	106-87-6	10	60	—	—	—	—	x
Vinylidene chloride (1,1-Dichloroethylene)	75-35-4	1	4	—	—	—	—	—
Vinyl toluene	25013-15-4	100	480	—	—	—	—	—
VM & P Naphtha	8032-32-4	300	1350	400	1800	—	—	—
Warfarin	81-81-2	—	0.1	—	—	—	—	—
Welding fumes (Total particulate)*	—	—	5	—	—	—	—	—
Wood dust, All soft and hard woods (except Western red cedar)	—	—	5	—	10	—	—	—
Wood dust, Western red cedar	—	—	2.5	—	—	—	—	—
Xylenes (o-,m-,p-	1330-20-7	100	435	150	655	—	—	—

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isomers) (Dimethyl benzene)								
m-Xylene alpha, alpha'-diamine	1477-55-0	—	—	—	—	—	0.1	x
Xylidine	1300-73-8	2	10	—	—	—	—	x
Yttrium	7440-65-5	—	1	—	—	—	—	—
Zinc chloride fume	7646-85-7	—	1	—	2	—	—	—
Zinc chromate (as CrO <sub>3</sub> )	Varies with compound	—	—	—	—	—	0.1	—
Zinc oxide fume	1314-13-2	—	5	—	10	—	—	—
Zinc oxide, Respirable dust	1314-13-2	—	5	—	—	—	—	—
Total dust		—	10	—	—	—	—	—
Zinc stearate Respirable dust	557-05-1	—	5	—	—	—	—	—
Total dust		—	10	—	—	—	—	—
Zirconium compounds (as Zr)	7440-67-7	—	5	—	10	—	—	—
<p>* As determined from breathing-zone air samples.</p> <p>** Parts per billion.</p> <p>A The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than 1 metal compound measured as the metal, the CAS number for the metal is given - not the CAS number for the individual compounds.</p> <p>B Parts of vapor or gas per million parts of contaminated air by volume at 25°C and 760 torr.</p> <p>C Approximate milligrams of substance per cubic meter of air.</p> <p>D Duration is for 15 minutes, unless otherwise noted.</p> <p>E The final benzene standard in R 325.77101 et seq. applies to all occupational exposures to benzene, except some subsegments of industry where exposures are consistently under the action level. These subsegments include the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures. For the excepted subsegments, the benzene limits in table G-2 apply.</p> <p>F Caution--this rule contains extensive requirements for exposure to these substances.</p>								

**TABLE G-2**  
**EXPOSURE LIMITS FOR AIR CONTAMINATES**

Substance	8-hour, time-weighted average	Acceptable ceiling concentration	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hour workshift.	
			Concentration	Maximum duration
S Benzene	10 ppm	25 ppm	50 ppm	10 minutes
Beryllium and beryllium Compounds	2 _g/m <sup>3</sup>	5 _g/m <sup>3</sup>	25 _g/m <sup>3</sup>	30 minutes
S Ethylene dibromide	20 ppm	30 ppm	50 ppm	5 minutes

Note: S above signifies that skin contact shall not be allowed.

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History: 1990 MR 12, Eff. Dec. 25, 1990; 2001 MR 8, Eff. May 9, 2001.

**ETHYLENE OXIDE**

**R 325.51151**

**Source:** 1993 AACS.

**R 325.51152**

**Source:** 1998-2000 AACS.

**R 325.51153**

**Source:** 1993 AACS.

**R 325.51154**

**Source:** 1993 AACS.

**R 325.51155**

**Source:** 1993 AACS.

**R 325.51156**

**Source:** 1993 AACS.

**R 325.51157**

**Source:** 1988 AACS.

**R 325.51158**

**Source:** 1988 AACS.

**R 325.51159**

**Source:** 1993 AACS.

**R 325.51160**

**Source:** 1988 AACS.

**R 325.51161**

**Source:** 1993 AACS.

**R 325.51162**

**Source:** 1998-2000 AACS.

**R 325.51163**

**Source:** 1998-2000 AACS.

**R 325.51164**

**Source:** 1988 AACS.

**R 325.51165**

**Source:** 1988 AACS.

**R 325.51166**

**Source:** 1988 AACS.

**R 325.51167**

**Source:** 1988 AACS.

**R 325.51168**

**Source:** 1988 AACS.

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**R 325.51169**

**Source:** 1988 AACS.

**R 325.51170**

**Source:** 1993 AACS.

**R 325.51171**

**Source:** 1988 AACS.

**R 325.51172**

**Source:** 1993 AACS.

**R 325.51173**

**Source:** 1993 AACS.

**R 325.51174**

**Source:** 1993 AACS.

**R 325.51175**

**Source:** 1988 AACS.

**R 325.51176**

**Source:** 1988 AACS.

**R 325.51177**

**Source:** 1998-2000 AACS.

**ASBESTOS STANDARDS FOR CONSTRUCTION**

**R 325.51301**

**Source:** 1997 AACS.

**R 325.51302**

**Source:** 1998-2000 AACS.

**ASBESTOS STANDARDS FOR GENERAL INDUSTRY**

**R 325.51311**

**Source:** 1997 AACS.

**R 325.51312**

**Source:** 1998-2000 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**DIRECTOR'S OFFICE**

**OCCUPATIONAL HEALTH STANDARDS--VINYL CHLORIDE**

**R 325.51401**

**Source:** 1998-2000 AACS.

**R 325.51402**

**Source:** 1998-2000 AACS.

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**R 325.51403**

**Source:** 1998-2000 AACS.

**R 325.51404**

**Source:** 1998-2000 AACS.

**R 325.51405**

**Source:** 1998-2000 AACS.

**R 325.51406**

**Source:** 1998-2000 AACS.

**R 325.51407**

**Source:** 1998-2000 AACS.

**R 325.51408**

**Source:** 1998-2000 AACS.

**R 325.51409**

**Source:** 1998-2000 AACS.

**R 325.51410**

**Source:** 1998-2000 AACS.

**R 325.51411**

**Source:** 1998-2000 AACS.

**R 325.51412**

**Source:** 1998-2000 AACS.

**R 325.51413**

**Source:** 1998-2000 AACS.

**R 325.51414**

**Source:** 1998-2000 AACS.

**FORMALDEHYDE**

**R 325.51451**

**Source:** 1990 AACS.

**R 325.51452**

**Source:** 1998-2000 AACS.

**R 325.51453**

**Source:** 1993 AACS.

**R 325.51454**

**Source:** 1993 AACS.

**R 325.51455**

**Source:** 1993 AACS.

**R 325.51456**

**Source:** 1990 AACS.

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- R 325.51457**  
Source: 1990 AACS.
- R 325.51458**  
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- R 325.51459**  
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- R 325.51460**  
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- R 325.51462**  
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- R 325.51463**  
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- R 325.51464**  
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- R 325.51466**  
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- R 325.51468**  
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- R 325.51469**  
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- R 325.51470**  
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- R 325.51471**  
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- R 325.51472**  
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- R 325.51473**  
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- R 325.51474**  
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- R 325.51475**  
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- R 325.51476**



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**Source:** 1998-2000 AACS.

**R 325.51477**

**Source:** 1998-2000 AACS.

**ACRYLONITRILE (AN)**

**R 325.51501**

**Source:** 1980 AACS.

**R 325.51502**

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**R 325.51503**

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**R 325.51518**

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**Source:** 1980 AACS.

**R 325.51527**

**Source:** 1998-2000 AACS.

**INORGANIC ARSENIC (AS)**

**R 325.51601**

**Source:** 1993 AACS.

**R 325.51602**

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**R 325.51603**

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**R 325.51604**

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**R 325.51607**

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**Source:** 1980 AACS.

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**R 325.51612**

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**R 325.51628**

**Source:** 1998-2000 AACS.

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**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**OCCUPATIONAL HEALTH STANDARDS COMMISSION**

**METHYLENE CHLORIDE**

**R 325.51651**

**Source:** 1998-2000 AACS.

**R 325.51652**

**Source:** 1998-2000 AACS.

**CADMIUM**

**R 325.51851**

**Source:** 1998-2000 AACS.

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**Source:** 1993 AACS.

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**R 325.51883**

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**Source:** 1998-2000 AACS.

**R 325.51884**

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**R 325.51885**

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**R 325.51886**

**Source:** 1998-2000 AACS.

**LEAD**

**R 325.51901**

**Source:** 1998-2000 AACS.

**R 325.51902**

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**R 325.51903**

**Source:** 1998-2000 AACS.

**R 325.51904**

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**R 325.51911**

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**R 325.51912**

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**Source:** 1984 AACS.

**R 325.51916**

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**R 325.51916a**

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**R 325.51916b**

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**R 325.51917**

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**R 325.51918**

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**R 325.51930**

**Source:** 1998-2000 AACS.

**R 325.51931**

**Source:** 1988 AACS.

**R 325.51931a**

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**Source:** 1998-2000 AACS.

**R 325.51932**

**Source:** 1998-2000 AACS.

**R 325.51933**

**Source:** 1988 AACS.

**R 325.51934**

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**R 325.51935**

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**Source:** 1981 AACS.

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**R 325.51942**

**Source:** 1981 AACS.

**R 325.51943**

**Source:** 1998-2000 AACS.

**R 325.51944**

**Source:** 1981 AACS.

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**Source:** 1981 AACS.

**R 325.51949**

**Source:** 1998-2000 AACS.



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**R 325.51950**

**Source:** 1981 AACS.

**R 325.51950a**

**Source:** 1984 AACS.

**R 325.51950b**

**Source:** 1984 AACS.

**R 325.51951**

**Source:** 1981 AACS.

**R 325.51952**

**Source:** 1981 AACS.

**R 325.51953**

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**R 325.51954**

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**R 325.51955**

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**R 325.51956**

**Source:** 1981 AACS.

**R 325.51957**

**Source:** 1981 AACS.

**R 325.51958**

**Source:** 1998-2000 AACS.

**LEAD EXPOSURE IN CONSTRUCTION**

**R 325.51991**

**Source:** 1993 AACS.

**R 325.51992**

**Source:** 1998-2000 AACS.

**HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE**

**R 325.52101**

**Source:** 1991 AACS.

**R 325.52102**

**Source:** 1998-2000 AACS.

**R 325.52103**

**Source:** 1998-2000 AACS.

**R 325.52104**

**Source:** 1991 AACS.

**R 325.52105**

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**Source:** 1991 AACS.

**R 325.52106**

**Source:** 1991 AACS.

**R 325.52107**

**Source:** 1991 AACS.

**R 325.52108**

**Source:** 1991 AACS.

**R 325.52109**

**Source:** 1991 AACS.

**R 325.52110**

**Source:** 1991 AACS.

**R 325.52111**

**Source:** 1991 AACS.

**R 325.52112**

**Source:** 1991 AACS.

**R 325.52113**

**Source:** 1998-2000 AACS.

**R 325.52114**

**Source:** 1998-2000 AACS.

**R 325.52115**

**Source:** 1991 AACS.

**R 325.52116**

**Source:** 1991 AACS.

**R 325.52117**

**Source:** 1991 AACS.

**R 325.52118**

**Source:** 1998-2000 AACS.

**R 325.52119**

**Source:** 1991 AACS.

**R 325.52120**

**Source:** 1991 AACS.

**R 325.52121**

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**R 325.52122**

**Source:** 1991 AACS.

**R 325.52123**

**Source:** 1991 AACS.

**R 325.52124**

**Source:** 1991 AACS.

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**R 325.52125**

**Source:** 1998-2000 AACS.

**R 325.52126**

**Source:** 1991 AACS.

**R 325.52127**

**Source:** 1991 AACS.

**R 325.52128**

**Source:** 1991 AACS.

**R 325.52129**

**Source:** 1998-2000 AACS.

**R 325.52130**

**Source:** 1998-2000 AACS.

**R 325.52131**

**Source:** 1998-2000 AACS.

**R 325.52132**

**Source:** 1991 AACS.

**R 325.52133**

**Source:** 1991 AACS.

**R 325.52134**

**Source:** 1991 AACS.

**R 325.52135**

**Source:** 1998-2000 AACS.

**R 325.52136**

**Source:** 1991 AACS.

**R 325.52137**

**Source:** 1998-2000 AACS.

**OCCUPATIONAL HEALTH STANDARDS**

**R 325.52201 Rescission of OH rule 3110.**

Rule 1. OH rule 3110, which was incorporated by reference pursuant to section 14 of 1974 PA 154, MCL 408.1014, is rescinded.

History: 2001 MR 18, Eff. Oct. 4, 2001.

**R 325.52401 Rescission of OH rule 3210.**

Rule 1. OH rule 3210, which was incorporated by reference pursuant to section 14 of 1974 PA 154, MCL 408.1014, is rescinded.

History: 2001, MR 18, Eff. Oct. 4, 2001.

**R 325.52701 Rescission of OH rule 3230.**

Rule 1. OH rule 3230, which was incorporated by reference pursuant to section 14 of 1974 PA 154, MCL 408.1014, is rescinded.

History: 2001 MR 18, Eff. Oct 4, 2001.

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**PERSONAL PROTECTIVE EQUIPMENT**

**R 325.60001**

**Source:** 1998-2000 AACS.

**R 325.60002**

**Source:** 1995 AACS.

**R 325.60003**

**Source:** 1995 AACS.

**R 325.60004**

**Source:** 1995 AACS.

**R 325.60005**

**Source:** 1998-2000 AACS.

**R 325.60006**

**Source:** 1995 AACS.

**R 325.60007**

**Source:** 1998-2000 AACS.

**R 325.60008**

**Source:** 1998-2000 AACS.

**R 325.60009**

**Source:** 1998-2000 AACS.

**R 325.60010**

**Source:** 1995 AACS.

**R 325.60011**

**Source:** 1995 AACS.

**R 325.60012**

**Source:** 1995 AACS.

**R 325.60013**

**Source:** 1998-2000 AACS.

**USE OF RESPIRATORS IN DANGEROUS ATMOSPHERES**

**R 325.60022**

**Source:** 1998-2000 AACS.

**RESPIRATORY PROTECTION**

**R 325.60051**

**Source:** 1998-2000 AACS.

**R 325.60052**

**Source:** 1998-2000 AACS.

**OCCUPATIONAL NOISE EXPOSURE**

**R 325.60101**

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**Source:** 1986 AACS.

**R 325.60102**

**Source:** 1986 AACS.

**R 325.60103**

**Source:** 1986 AACS.

**R 325.60104**

**Source:** 1986 AACS.

**R 325.60105**

**Source:** 1986 AACS.

**R 325.60106**

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**R 325.60107**

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**R 325.60114**

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**R 325.60115**

**Source:** 1993 AACS.

**R 325.60116**

**Source:** 1986 AACS.

**R 325.60117**

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**R 325.60119**

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**R 325.60120**

**Source:** 1993 AACS.

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**R 325.60121**  
**Source:** 1993 AACS.

**R 325.60122**  
**Source:** 1993 AACS.

**R 325.60123**  
**Source:** 1986 AACS.

**R 325.60124**  
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**R 325.60125**  
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**R 325.60126**  
**Source:** 1986 AACS.

**R 325.60127**  
**Source:** 1993 AACS.

**R 325.60128**  
**Source:** 1993 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**DIRECTOR'S OFFICE**

**OCCUPATIONAL HEALTH STANDARDS--NOISE EXPOSURE FOR CONSTRUCTION**

**R 325.60131**  
**Source:** 1998-2000 AACS.

**AGRICULTURAL FIELD SANITATION**

**R 325.61751**  
**Source:** 1997 AACS.

**R 325.61752**  
**Source:** 1997 AACS.

**R 325.61753**  
**Source:** 1997 AACS.

**R 325.61754**  
**Source:** 1997 AACS.

**R 325.61755**  
**Source:** 1997 AACS.

**R 325.61756**  
**Source:** 1997 AACS.

**R 325.61757**  
**Source:** 1997 AACS.

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**UNDERGROUND CONSTRUCTION, CAISSONS, COFFERDAMS,  
AND COMPRESSED AIR**

**R 325.62991**

**Source:** 1998-2000 AACS.

**R 325.62992**

**Source:** 1998-2000 AACS.

**R 325.62993**

**Source:** 1998-2000 AACS.

**R 325.62994**

**Source:** 1998-2000 AACS.

**R 325.62995**

**Source:** 1995 AACS.

**R 325.62996**

**Source:** 1998-2000 AACS.

**PERMIT-REQUIRED CONFINED SPACES**

**R 325.63001**

**Source:** 1998-2000 AACS.

**R 325.63002**

**Source:** 1998-2000 AACS.

**R 325.63049**

**Source:** 1998-2000 AACS.

**BLOODBORNE INFECTIOUS DISEASES**

**R 325.70001 Scope.**

Rule 1. These rules apply to all employers that have employees with occupational exposure to blood and other potentially infectious material.

History: 1993 MR 6, Eff. July 16, 1993; 2001 MR 13, Eff. Oct. 18, 2001.

**R 325.70002 Definitions.**

Rule 2. As used in these rules:

- (a) "Act" means 1974 PA 154, MCL 408.1001 et seq.
- (b) "Biologically hazardous conditions" means equipment, containers, rooms, materials, experimental animals, animals infected with HBV or HIV virus, or combinations thereof that contain, or are contaminated with, blood or other potentially infectious material.
- (c) "Blood" means human blood, human blood components, and products made from human blood.
- (d) "Bloodborne pathogens" means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include hepatitis B virus (HBV) and human immunodeficiency virus (HIV).
- (e) "Clinical laboratory" means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious material.
- (f) "Contaminated" means the presence or the reasonably anticipated presence of blood or other potentially infectious material on an item or surface.

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- (g) "Contaminated laundry" means laundry which has been soiled with blood or other potentially infectious materials or which may contain sharps.
- (h) "Contaminated sharps" means any contaminated object that can penetrate the skin, including any of the following:
- (i) Needles.
  - (ii) Scalpels.
  - (iii) Broken glass.
  - (iv) Broken capillary tubes.
  - (v) Exposed ends of dental wires.
- (i) "Decontamination" means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
- (j) "Department" means the department of consumer and industry services.
- (k) "Director" means the director of the department or his or her designee.
- (l) "Disinfect" means to inactivate virtually all recognized pathogenic microorganisms, but not necessarily all microbial forms, on inanimate objects.
- (m) "Engineering controls" means controls, for example, sharps disposal containers, self-sheathing needles, or safer medical devices, such as sharps with engineered sharps injury protections and needleless systems, that isolate or remove the bloodborne pathogen hazard from the workplace.
- (n) "Exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties. "Exposure" does not include incidental exposures which may take place on the job, which are neither reasonably nor routinely expected, and which the worker is not required to incur in the normal course of employment.
- (o) "Exposure incident" means a specific eye, mouth, other mucous membrane, nonintact skin, or parenteral contact with blood or other potentially infectious material that results from the performance of an employee's duties.
- (p) "Handwashing facilities" means facilities that provide an adequate supply of running, potable water, soap, and single-use towels or a hot-air drying machine.
- (q) "Licensed health care professional" means a person whose legally permitted scope of practice allows him or her to independently perform the activities required by R 325.70013 concerning hepatitis B vaccination and post-exposure evaluation and follow-up.
- (r) "Needleless systems" means a device that does not use needles for any of the following:
- (i) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established.
  - (ii) The administration of medication or fluids.
  - (iii) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.
- (s) "Other potentially infectious material" means any of the following:
- (i) Any of the following human body fluids:
    - (A) Semen.
    - (B) Vaginal secretions.
    - (C) Amniotic fluid.
    - (D) Cerebrospinal fluid.
    - (E) Peritoneal fluid.
    - (F) Pleural fluid.
    - (G) Pericardial fluid.
    - (H) Synovial fluid.
    - (I) Saliva in dental procedures.
    - (J) Any body fluid that is visibly contaminated with blood.
    - (K) All body fluids in situations where it is difficult or impossible to differentiate between body fluids.
  - (ii) Any unfixed tissue or organ, other than intact skin, from a living or dead human.
  - (iii) Cell or tissue cultures that contain HIV, organ cultures, and culture medium or other solutions that



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contain HIV or HBV; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

(t) "Parenteral" means exposure occurring as a result of piercing mucous membrane or the skin barrier, such as exposure through subcutaneous, intramuscular, intravenous, or arterial routes resulting from needlesticks, human bites, cuts, and abrasions.

(u) "Personal protective equipment" or "PPE" means specialized clothing or equipment that is worn by an employee to protect him or her from a hazard. General work clothes, such as uniforms, pants, shirts, or blouses, that are not intended to function as protection against a hazard are not considered to be personal protective equipment.

(v) "Production facility" means a facility that is engaged in the industrial-scale, large-volume production of HIV or HBV or in the high-concentration production of HIV or HBV.

(w) "Regulated waste" means any of the following:

(i) Liquid or semiliquid blood or other potentially infectious material.

(ii) Contaminated items that would release blood or other potentially infectious material in a liquid or semiliquid state if compressed.

(iii) Items which are caked with dried blood or other potentially infectious material and which are capable of releasing these materials during handling.

(iv) Contaminated sharps.

(v) Pathological and microbiological waste that contains blood or other potentially infectious material.

(x) "Research laboratory" means a laboratory that produces or uses research laboratory-scale amounts of HIV or HBV. A research laboratory may produce high concentrations of HIV or HBV, but not in the volume found in a production facility.

(y) "Sharps with engineered sharps injury protections" means a nonneedle sharp or a needle device which is used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, and which has a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

(z) "Source individual" means any living or dead individual whose blood or other potentially infectious material may be a source of occupational exposure to an employee. Examples of a source individual include all of the following:

(i) A patient of a hospital or clinic.

(ii) A client of an institution for the developmentally disabled.

(iii) A victim of trauma.

(iv) A client of a drug or alcohol treatment facility.

(v) A resident of a hospice or nursing home.

(vi) Human remains.

(vii) An individual who donates or sells his or her blood or blood components.

(aa) "Standard operating procedures (SOPs)" means any of the following that address the performance of work activities so as to reduce the risk of exposure to blood and other potentially infectious material:

(i) Written policies.

(ii) Written procedures.

(iii) Written directives.

(iv) Written standards of practice.

(v) Written protocols.

(vi) Written systems of practice.

(vii) Elements of an infection control program.

(bb) "Sterilize" means the use of a physical or chemical procedure to destroy all microbial life, including highly resistant bacterial endospores.

(cc) "Universal precautions" means a method of infection control that treats all human blood and other potentially infectious material as capable of transmitting HIV, HBV, and other bloodborne pathogens.

(dd) "Work practices" means controls that reduce the likelihood of exposure to bloodborne pathogens by altering the manner in which a task is performed.

History: 1993 MR 6, Eff. July 16, 1993; 1996 MR 12, Eff. Jan. 31, 1997; 2001 MR 13, Eff. Oct. 18, 2001.

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**R 325.70003**

**Source:** 1993 AACs.

**R 325.70004 Exposure control plan.**

Rule 4. (a) If an employee is determined to be in category A, then an employer shall establish a written exposure control plan to minimize or eliminate employee exposure.

(b) An exposure control plan shall contain all of the following information:

(i) The exposure determination required by R 325.70003(1).

(ii) The schedule and method of implementation for each of the applicable rules of these rules.

(iii) The contents or a summary of the training program required by R 325.70016.

(iv) The procedures for the evaluation of circumstances surrounding exposure incidents as required by R 325.70013(5).

(v) Task-specific standard operating procedures (SOPs) that address all of the following areas:

(A) Employee recognition of reasonably anticipated exposure to blood and other potentially infectious material.

(B) Appropriate selection, use, maintenance, and disposal of personal protective equipment.

(C) Contingency plans for foreseeable circumstances that prevent following the recommended SOPs.

(c) General employer policies or task-specific SOPs shall address the management of inadvertent exposures such as needlesticks or mucus membrane exposures.

(d) The exposure control plan shall be reviewed at least annually and updated as necessary. A review shall consider changes in employees' tasks and procedures and the latest information from the centers for disease control or the department. See appendix A for addresses of these agencies. The review and update of the exposure control plans shall comply with both of the following provisions:

(i) Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens.

(ii) Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

(e) An employer shall ensure that only a person who has knowledge of applicable control practices is authorized to write and to review an exposure control plan.

(f) An employer shall ensure that the exposure control plan is made available to the director or a representative of the director for examination and copying upon request.

(g) An employer shall ensure that a copy of the exposure control plan is accessible to category A employees in accordance with R 325.3451 et seq.

(h) An employer, who is required to establish an exposure control plan shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the exposure control plan.

History: 1993 MR 6, Eff. July 16, 1993; 1996 MR 8, Eff. Sept. 30, 1996; 2001 MR 13, Eff. Oct. 18, 2001.

**R 325.70005**

**Source:** 1996 AACs.

**R 325.70006**

**Source:** 1993 AACs.

**R 325.70007**

**Source:** 1996 AACs.

**R 325.70008**

**Source:** 1996 AACs.

**R 325.70009**

**Source:** 1996 AACs.

**R 325.70010**

**Source:** 1993 AACs.

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**R 325.70011**

**Source:** 1993 AACS.

**R 325.70012**

**Source:** 1996 AACS.

**R 325.70013**

**Source:** 1996 AACS.

**R 325.70014**

**Source:** 1993 AACS.

**R 325.70015 Recordkeeping.**

Rule 15. (1) An employer shall establish and maintain medical records for each category A employee in accordance with R 325.3451 et seq.

(2) An employer shall ensure that medical records contain, at a minimum, all of the following information:

(a) The name and social security number of the employee.

(b) A copy of the employee's hepatitis B vaccination status, including the dates administered and medical records relating to the employee's ability to receive a vaccination as required by R 325.70013.

(c) A copy of the medical history and all results of physical examinations, medical testing, and follow-up procedures as they relate to either of the following:

(i) The employee's ability to wear protective clothing and equipment and receive vaccination.

(ii) Postexposure evaluation after an occupational exposure incident.

(d) The employer's copy of the physician's written opinion.

(e) A copy of the information provided to the physician as required by R 325.70013(6).

(3) An employer shall assure that employee medical records that are required by this rule are kept confidential and are not disclosed or reported without the employee's express written consent to any person within or outside the workplace, except as required by this rule or as may be required or permitted by law.

(4) An employer shall maintain employee medical records for not less than the duration of employment plus 30 years in accordance with R 325.3451 et seq.

(5) An employer shall develop and maintain training records for each category A employee. Training records shall be maintained for 3 years beyond the date that the training occurred.

(6) Training records shall include all of the following information:

(a) The dates of the training sessions.

(b) The contents or a summary of the training sessions.

(c) The names and qualifications of persons who conduct the training.

(d) The names and job titles of all persons who attend the training sessions.

(7) An employer shall assure that all records that are required to be maintained by these rules shall be made available, upon request, to representatives of the department or the director for examination and copying.

(8) An employer shall ensure that employee training records are provided, upon request, for examination and copying to employees, employee representatives, and the director in accordance with R 325.3451 et seq.

(9) An employer shall ensure that employee medical records are provided, upon request, for examination and copying to the subject employee, to anyone who has the written consent of the subject employee, and to the director in accordance with R 325.3451 et seq.

(10) An employer shall comply with the requirements that involve the transfer of records set forth in R 325.3451 et seq.

(11) If an employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, then the employer shall notify the director, not less than 3 months before disposing of the records, and shall transmit the records to the director if required by the director to do so within the 3-month period.

(12) All of the following provisions apply to a sharps injury log:

(a) An employer shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in a manner that protects the confidentiality of the injured employee. At a minimum, a sharps injury log shall

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contain all of the following information:

- (i) The type and brand of device involved in the incident.
- (ii) The work unit or work area where the exposure incident occurred.
- (iii) An explanation of how the incident occurred.
- (b) The requirement to establish and maintain a sharps injury log applies to any employer who is required to maintain a log of occupational injuries and illnesses under R 408.22101 et seq., being Part 11. Recording and Reporting of Occupational Injuries and Illnesses.
- (c) A sharps injury log shall be maintained for the period required by R 408.22101 et seq., Part 11. Recording and Reporting of Occupational Injuries and Illnesses.

History: 1993 MR 6, Eff. July 16, 1993; 1996 MR 8, Eff. Sept. 30, 1996; 2001 MR 13, Eff. Oct. 18, 2001.

**R 325.70016**

**Source:** 1996 AACS.

**R 325.70017**

**Source:** 1996 AACS.

**R 325.70018**

**Source:** 1996 AACS.

**HAZARDOUS WORK IN LABORATORIES**

**R 325.70101**

**Source:** 1992 AACS.

**R 325.70102**

**Source:** 1992 AACS.

**R 325.70103**

**Source:** 1992 AACS.

**R 325.70104**

**Source:** 1992 AACS.

**R 325.70105**

**Source:** 1992 AACS.

**R 325.70106**

**Source:** 1992 AACS.

**R 325.70107**

**Source:** 1992 AACS.

**R 325.70108**

**Source:** 1992 AACS.

**R 325.70109**

**Source:** 1992 AACS.

**R 325.70110**

**Source:** 1992 AACS.

**R 325.70111**

**Source:** 1992 AACS.

**R 325.70112**

**Source:** 1992 AACS.

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**R 325.70113**

**Source:** 1992 AACS.

**R 325.70114**

**Source:** 1992 AACS.

**DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES**

**DIRECTOR'S OFFICE**

**OCCUPATIONAL HEALTH STANDARDS**

**R 325.70251 Rescission of OH rule 3201.**

Rule 51. OH rule 3201 which was incorporated by reference pursuant to section 14 of 1974 PA 154, MCL 408.1014, is rescinded.

History: 2001 MR 5, Eff. Mar. 16, 2001.

**HAZARD COMMUNICATION**

**R 325.77001**

**Source:** 1995 AACS.

**R 325.77002**

**Source:** 1995 AACS.

**R 325.77003**

**Source:** 1995 AACS.

**BENZENE**

**R 325.77101**

**Source:** 1989 AACS.

**R 325.77102 Definitions.**

Rule 2. As used in these rules:

- (a) "Act" means 1974 PA 154, MCL 408.1001 et seq.
- (b) "Action level" means an airborne concentration of benzene of 0.5 parts per million (ppm) calculated as an 8-hour, time-weighted average (TWA).
- (c) "Authorized person" means any of the following:
  - (i) A person who is specifically authorized by the employer to enter a regulated area and whose duties require the person to enter a regulated area.
  - (ii) A person who enters a regulated area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under R 325.77112.
  - (iii) Any other person authorized by the act or rules issued under the act.
- (d) "Benzene" (C<sub>6</sub>H<sub>6</sub>) (CAS registry no. 71-43-2) means liquefied or gaseous benzene. It includes benzene contained in liquid mixtures and the benzene vapors released by the liquids. It does not include trace amounts of unreacted benzene contained in solid materials.
- (e) "Bulk wholesale storage facility" means a bulk terminal or bulk plant where fuel is stored before delivery to wholesale customers.
- (f) "Container" means any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or other receptacle, but does not include piping systems.
- (g) "Day" means any part of a calendar day.
- (h) "Department" means the department of consumer and industry services.
- (i) "Director" means the director of the department or his or her designee.

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(j) "Emergency" means any occurrence, such as, equipment failure, rupture of containers, or failure of control equipment, which may or does result in an unexpected significant release of benzene.

(k) "Employee exposure" means exposure to airborne benzene that would occur if an employee did not use respiratory protective equipment.

(l) "O.H. rule" means an occupational health rule adopted by reference in accordance with section 14 of the act. Printed copies of these rules are available for inspection and for distribution to the public at no cost as of the time of adoption of these rules from the offices of the Michigan department of consumer and industry services, MIOSHA standards division, 7150 Harris Drive, Lansing, Michigan, 48909.

(m) "Regulated area" means any area where airborne concentrations of benzene are more than, or can reasonably be expected to be more than, the permissible exposure limits of either the 8-hour, time-weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

(n) "Vapor control system" means any equipment that is used for containing the total vapors displaced during the loading of gasoline, motor fuel, or other fuel tank trucks and the displacing of these vapors through a vapor processing system or balancing the vapor with the storage tank. This equipment also includes systems containing the vapors displaced from the storage tank during the unloading of the tank truck which balance the vapors back to the tank truck.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77103**

**Source:** 1989 AACs.

**R 325.77104**

**Source:** 1989 AACs.

**R 325.77105 Exposure monitoring.**

Rule 5. (1) Determinations of employee exposure shall be made from breathing zone air samples that are representative of each employee's average exposure to airborne benzene.

(2) Representative 8-hour TWA employee exposures shall be determined on the basis of 1 sample or samples representing the full shift exposures for each job classification in each work area.

(3) Determinations of compliance with the short-term exposure limits (STEL) shall be made from 15-minute employee breathing zone samples that are measured at operations where there is reason to believe exposures are high, such as where tanks are opened, filled, unloaded, or gauged, where containers or process equipment are opened, and where benzene is used for cleaning or as a solvent in an uncontrolled situation. An employer may use objective data, such as measurements from brief period measuring devices, to determine where STEL monitoring is needed.

(4) Except for initial monitoring required by the provisions of subrule (5) of this rule, if an employer can document that one shift will consistently have higher exposures for an operation, then the employer shall only be required to determine representative employee exposure for that operation during the shift on which the highest exposure is expected.

(5) An employer who has a place of employment subject to these rules shall monitor each workplace and work operation to accurately determine the airborne concentrations of benzene to which employees may be exposed. Initial monitoring shall be completed within 30 days of the introduction of benzene into the workplace.

(6) If the monitoring required by subrule (5) of this rule reveals employee exposure at or above the action level, but at or below the TWA, then an employer shall repeat representative full-shift personal monitoring for each such employee at least every year. If the monitoring required by subrule (5) of this rule reveals employee exposure above the TWA, then an employer shall repeat the monitoring required by subrule (5) of this rule for each such employee at least every 6 months. An employer may alter the monitoring schedule from every 6 months to annually for an employee for whom 2 consecutive measurements, taken not less than 7 days apart, indicate that the employee exposure has decreased to the TWA or below, but is at or above the action level. Monitoring for the STEL shall be repeated as necessary to evaluate exposures of employees subject to short-term exposures.

(7) If the initial monitoring required by subrule (5) of this rule reveals employee exposure to be below the

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action level, then an employer may discontinue the monitoring for that employee, except as otherwise required by subrule (8) of this rule. If the periodic monitoring required by subrule (6) of this rule reveals that employee exposures, as indicated by not less than 2 consecutive measurements, taken not less than 7 days apart, are below the action level, then an employer may discontinue the monitoring for that employee, except as otherwise required by subrule (8) of this rule.

(8) An employer shall institute the exposure monitoring required by subrules (5) and (6) of this rule when there has been a change in the production, process, control equipment, personnel, or work practices which may result in new or additional exposures to benzene or when the employer has any reason to suspect a change which may result in new or additional exposures. If spills, leaks, ruptures, or other breakdowns that may lead to employee exposure occur, then an employer shall monitor, using area or personal sampling, after the cleanup of the spill or repair of the leak, rupture, or other breakdown to ensure that exposures have returned to the level that existed before the incident.

(9) Monitoring shall be accurate, to a confidence level of 95%, to within plus or minus 25% for airborne concentrations of benzene.

(10) An employer shall, within 15 working days after the receipt of the results of any monitoring performed under these rules, notify each employee of monitoring results, in writing, either individually or by posting the results in an appropriate location that is accessible to affected employees. If the PELs are exceeded, then the written notification required by this subrule shall contain the corrective action being taken by the employer to reduce the employee exposure to or below the PELs or shall refer to a document which is available to the employee and which states the corrective actions to be taken.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77106**

**Source:** 1989 AACs.

**R 325.77107 Respiratory protection.**

Rule 7. (1) For employees who use respirators required by these rules, the employer shall provide respirators that comply with the requirements of these rules. An employer shall ensure that an employee uses a respirator during all of the following:

- (a) Periods necessary to install or implement feasible engineering and work-practice controls.
- (b) Work operations for which the employer establishes that compliance with either the TWA or STEL through the use of engineering and work-practice controls is not feasible; for example, some maintenance and repair activities, vessel cleaning, or other operations for which engineering and work-practice controls are not feasible because exposures are intermittent and limited in duration.
- (c) Work operations for which feasible engineering and work-practice controls are not yet sufficient, or are not required under 325.77106(3), to reduce employee exposure to or below the PELs.
- (d) Emergencies.

(2) An employer shall implement a respiratory protection program in accordance with 29 C.F.R. §1910.134 (b) to (d), (except for (d)(1)(iii), (d)(3)(iii)(b)(1), and (2)) and (f) to (m).

(a) For air-purifying respirators, the employer shall replace the air-purifying element at the expiration of its service life or at the beginning of each shift in which such elements are used, whichever comes first.

(b) If NIOSH approves an air-purifying element with an end-of-service-life indicator for benzene, then the element may be used until the indicator shows no further useful life.

(3) An employer shall select and provide, at not cost to the employee, the appropriate respirator from table 1 of this rule and shall ensure that the employee uses the respirator that is provided.

(4) An employer shall allow an employee who cannot use a negative-pressure respirator to use a respirator with less breathing resistance, such as a powered air-purifying respirator or supplied-air respirator.

TABLE 1 - RESPIRATORY PROTECTION FOR BENZENE

Airborne concentration of benzene or condition of use	Respirator type

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(a) Less than or equal to 10 ppm.	Half-mask air-purifying respirator with organic vapor cartridge.
(b) Less than or equal to 50 ppm.	Full facepiece respirator with organic vapor cartridges or full facepiece gas mask with chin style canister. <sup>1</sup>
(c) Less than or equal to 100 ppm.	Full facepiece powered air-purifying respirator with organic vapor canister. <sup>1</sup>
(d) Less than or equal to 1,000 ppm.	Supplied-air respirator with full facepiece in positive-pressure mode.
(e) More than 1,000 ppm or unknown concentration.	Self-contained breathing apparatus with full facepiece positive-pressure mode or full facepiece positive-pressure supplied-air respirator with auxiliary self-contained air supply.
(f) Escape.	Any organic vapor gas mask or any self-contained breathing apparatus with full facepiece.
(g) Fire fighting.	Full facepiece self-contained breathing apparatus in positive-pressure mode.
<sup>1</sup> A canister shall have a minimum service life of 4 hours when tested at 150 ppm benzene, at a flow rate of 64 liters per minute (LPM), 25 degrees Centigrade, and 85% relative humidity for nonpowered, air-purifying respirators. The flow rate shall be 115 LPM and 170 LPM respectively for tight-fitting and loose-fitting, powered, air-purifying respirators.	

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77108 Protective clothing and equipment.**

Rule 8. Personal protective clothing and equipment shall be worn in accordance with R 325.60001 et seq. entitled occupational health standard Part 433. Personal Protective Equipment where it is necessary to prevent eye contact and limit dermal exposure to liquid benzene. Protective clothing and equipment shall be provided by the employer at no cost to the employee and the employer shall ensure its use where appropriate. Eye and face protection shall meet the requirements of R 408.13301 et seq. entitled general industry safety standard Part 33. Personal Protective Equipment.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77109 Medical surveillance.**

Rule 9. (1) An employer shall make a medical surveillance program available to all of the following persons:

- (a) Employees who are or may be exposed to benzene at or above the action level 30 or more days per year.
  - (b) Employees who are exposed to benzene at or above the PELs 10 or more days per year.
  - (c) Employees who are involved in tire-building operations, known as tire-building machine operators, and who use solvents that contain more than 0.1% benzene.
- (2) An employer shall ensure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory.
- (3) An employer shall ensure that persons other than licensed physicians who administer the pulmonary function testing required by this rule complete a training course in spirometry sponsored by an appropriate



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governmental, academic, or professional institution.

(4) An employer shall ensure that all examinations and procedures are provided without cost to the employee and at a reasonable time and place.

(5) Before the time of initial assignment, an employer shall provide a medical examination for each employee covered by the provisions of this rule. The examination shall include all of the following:

(a) A detailed occupational history, including all of the following:

(i) Past work exposure to benzene or any other hematological toxins.

(ii) A family history of blood dyscrasias, including hematological neoplasms.

(iii) A history of blood dyscrasias, including genetic hemoglobin abnormalities, bleeding abnormalities, and abnormal function of formed blood elements.

(iv) A history of renal or liver dysfunction.

(v) A history of medicinal drugs routinely taken.

(vi) A history of previous exposure to ionizing radiation.

(vii) Exposure to marrow toxins outside of the current work situation.

(b) A complete physical examination.

(c) A complete blood count, including all of the following:

(i) A leukocyte count with differential.

(ii) A quantitative thrombocyte count.

(iii) Hematocrit.

(iv) Hemoglobin.

(v) Erythrocyte count and erythrocyte indices (MCV, MCH, MCHC).

The results of these tests shall be reviewed by the examining physician.

(d) Additional tests that the examining physician deems necessary due to alterations to the components of the blood or other signs which may be related to benzene exposure.

(e) For all workers who are required to wear respirators for not less than 30 days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.

(6) An employer shall provide each employee who is subject to subrule (1) of this rule with an annual medical examination. An annual examination shall include, at a minimum, all of the following elements:

(a) A brief history regarding any new exposure to potential marrow toxins, changes in medicinal drug use, or the appearance of physical signs relating to blood disorders.

(b) A complete blood count, including all of the following:

(i) A leukocyte count with differential.

(ii) A quantitative thrombocyte count.

(iii) Hemoglobin.

(iv) Hematocrit.

(v) Erythrocyte count and erythrocyte indices (MCV, MCH, MCHC).

(c) Appropriate additional tests that the examining physician deems necessary due to alterations in the components of the blood or other signs which may be related to benzene exposure.

(7) If an employee develops signs and symptoms commonly associated with toxic exposure to benzene, then an employer shall provide the employee with an additional medical examination that shall include the elements considered appropriate by the examining physician.

(8) For persons who are required to use respirators for not less than 30 days a year, a pulmonary function test shall be performed every 3 years. A specific evaluation of the cardiopulmonary system shall be made at the time of the pulmonary function test.

(9) If an employee is exposed to benzene in an emergency situation, then, in addition to the surveillance required by these rules, the employer shall ensure the employee has urinary phenol testing as follows:

(a) A urine sample shall be collected at the end of the employee's shift and tested within 72 hours of collection. The urine sample specific gravity shall be corrected to 1.024.

(b) If the results of the urinary phenol test is below 75 mg phenol/L of urine, then further testing is not required.

(c) If the results of the urinary phenol test is equal to or more than 75 mg phenol/L of urine, then the employee shall have an initial complete blood count to be repeated every month for 3 months, which shall

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include all of the following:

- (i) Erythrocyte count.
- (ii) Leukocyte count with differential.
- (iii) Thrombocyte count.

(d) If any of the conditions specified in subrule (10) of this rule exists, then the employer shall ensure that the requirements of subrule (10) are met and provide the employee with periodic examinations if directed by the physician.

(10)(a) If the results of the complete blood count required for the initial and periodic examinations indicate that any of the following abnormal conditions exist, then the employer shall ensure that the blood count is repeated within 2 weeks:

(i) The hemoglobin level or the hematocrit falls below the normal limit, that is, outside the 95% confidence interval (C.I.), as determined by the laboratory for the particular geographic area or these indices show a persistent downward trend from the individual's preexposure norms and these findings cannot be explained by other medical reasons.

(ii) The thrombocyte (platelet) count varies more than 20% below the employee's most recent values or falls outside the normal limit (95% C.I.) as determined by the laboratory.

(iii) The leukocyte count is below 4,000 per mm<sup>3</sup> or there is an abnormal differential count.

(b) If the abnormality persists, then the employer shall ensure that the examining physician shall refer an employee to a hematologist or an internal medicine physician (internist) for further evaluation, unless the physician has good reason to believe the referral is unnecessary. (See appendix C for examples of conditions where a referral may be unnecessary.)

(c) An employer shall provide the hematologist or internist with all the information required in subrule (11) of this rule and the medical record required to be maintained by R 325.77111(2).

(d) An employer shall ensure that the hematologist's or internist's evaluation includes a determination as to the need for additional tests, and an employer shall ensure that the needed tests are provided.

(11) An employer shall provide all of the following information to the examining physician:

(a) A copy of these rules and adopted appendices.

(b) A description of the affected employee's duties as they relate to the employee's exposure.

(c) The employee's actual or representative exposure level.

(d) A description of any personal protective equipment used or to be used.

(e) Information from previous employment-related medical examinations of the affected employee that is not otherwise available to the examining physician.

(12) For each examination under this rule, an employer shall obtain, and provide an employee with, a copy of the examining physician's written opinion within 15 days of the examination. The written opinion shall be limited to the following information:

(a) The occupationally pertinent results of the medical examination and tests.

(b) The physician's opinion concerning whether the employee has any detected medical conditions that would place an employee's health at greater than normal risk of material impairment from exposure to benzene.

(c) The physician's recommended limitations upon an employee's exposure to benzene or upon an employee's use of protective clothing or equipment and respirators.

(d) A statement that an employee has been informed by a physician of the results of the medical examination and any medical conditions resulting from benzene exposure that require further explanation or treatment.

The written opinion obtained by an employer shall not reveal specific records, findings, and diagnoses that have no bearing on the employee's ability to work in a benzene-exposed workplace.

(13) If a physician makes a referral to a hematologist or internist under subrule (10) of this rule, then an employee shall be removed from areas where exposures may exceed the action level until the physician makes a determination under subrule (14) of this rule.

(14) Following the examination and evaluation by a hematologist or internist, a decision to remove an employee from areas where benzene exposure is above the action level or to allow the employee to return to areas where benzene exposure is above the action level shall be made by the physician in consultation with the hematologist or internist. The physician shall communicate the decision, in writing, to the employer and employee. In the case of removal, the physician shall state the required probable duration of removal from occupational exposure to benzene above the action level and the requirements for future medical

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examinations to review the decision.

(15) If an employee is removed under subrule (14) of this rule, then an employer shall provide a follow-up examination. The physician, in consultation with the hematologist or internist, shall make a decision, within 6 months of the date an employee was removed, as to whether the employee shall be returned to his or her usual job or whether the employee should be removed permanently.

(16) If an employee is temporarily removed from benzene exposure under subrule (13) or (14) of this rule, then an employer shall transfer the employee to a comparable job for which the employee is qualified or which the employee can be trained for in a short period and where benzene exposures are as low as possible, but not higher than the action level. An employer shall maintain the employee's current wage rate, seniority, and other benefits. If no such job is available, then an employer shall provide medical removal protection benefits until a job becomes available or for 6 months, whichever comes first.

(17) If an employee is removed permanently from benzene exposure based on a physician's recommendation under subrule (15) of this rule, then an employee shall be given the opportunity to transfer to another position which is available or later becomes available for which the employee is qualified or which the employee can be trained for in a short period and where benzene exposures are as low as possible, but not higher than the action level. An employer shall ensure that the employee does not suffer a reduction in current wage rate, seniority, or other benefits as a result of the transfer.

(18) An employer shall provide to an employee 6 months of medical removal protection benefits immediately following each occasion that an employee is removed from exposure to benzene because of hematological findings under subrule (13) or (14) of this rule, unless the employee has been transferred to a comparable job where benzene exposures are below the action level.

(19) For the purposes of this rule, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the current wage rate, seniority, and other benefits of an employee as though the employee had not been removed.

(20) An employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program or from employment with another employer made possible by virtue of the employee's removal.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77110    Communication of benzene hazards to employees.**

Rule 10. (1) An employer shall post signs at entrances to regulated areas. The signs shall bear the following legend:

DANGER  
BENZENE  
CANCER HAZARD  
FLAMMABLE - NO SMOKING  
AUTHORIZED PERSONNEL ONLY  
RESPIRATOR REQUIRED

(2) An employer shall ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. The labels shall comply with the hazard communication provisions of sections 14a to 14m of 1974 PA 154, MCL 408.1014a to 408.1014m and, in addition, shall include the following legend:

DANGER  
CONTAINS BENZENE  
CANCER HAZARD

(3) An employer shall obtain or develop, and provide its employees access to, a material safety data sheet (MSDS) which addresses benzene and complies with the hazard communication provisions referenced in subrule (2) of this rule. An employer who is a manufacturer or importer shall comply with the provisions of this subrule and with the hazard communication provisions referenced in subrule (2) of this rule, that the employer deliver to downstream employers an MSDS that addresses benzene.

(4) An employer shall provide employees with information and training at the time of their initial assignment to a work area where benzene is present. If exposures are above the action level, then

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employees shall be provided with information and training at least annually thereafter. The training program shall comply with the hazard communication provisions referenced in subrule (2) of this rule and shall include specific information on benzene for each category of information included in sections 14a to 14m of 1974 PA 154, MCL 408.1014a to 408.1014m. In addition to the information required, pursuant to the hazard communication provisions referenced in subrule (2) of this rule, the employer shall do both of the following:

- (a) Provide employees with an explanation of the contents of this rule, including appendices A and B, which are adopted by reference in R 325.77114, and indicate to employees where copies of these rules are available.
- (b) Describe the medical surveillance program required under R 325.77109 and explain the information contained in appendix C.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77111 Recordkeeping.**

Rule 11. (1) An employer shall establish and maintain an accurate record of all measurements required by R 325.77105 in accordance with the provisions of the occupational health standard, employee medical records and trade secrets, being R 325.3451 et seq. The record shall include all of the following information:

- (a) The dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures.
- (b) A description of the sampling and analytical methods used.
- (c) A description of the type of respiratory protective devices worn, if any.
- (d) The name, social security number, job classification, and exposure levels of the employee monitored and all other employees whose exposures the measurement is intended to represent.

An employer shall maintain this record for not less than 30 years and in accordance with R 325.3451 to R 325.3476.

(2) An employer shall establish and maintain an accurate record for each employee who is subject to medical surveillance required by the provisions of R 325.77109. The record shall be maintained in accordance with R 325.3451 to R 325.3476. The record shall include all of the following information:

- (a) The name and social security number of the employee.
- (b) The employer's copy of the physician's written opinion on the initial, annual, and special examinations, including results of medical examinations and all tests, opinions, and recommendations.
- (c) Any employee medical complaints related to exposure to benzene.
- (d) A copy of the information provided to the physician as required by R 325.77109(11)(b) to (e).
- (e) A copy of the employee's medical and work history related to exposure to benzene or any other hematologic toxins.

An employer shall maintain the record for not less than the duration of employment plus 30 years. The record shall be maintained in accordance with R 325.3451 to R 325.3476.

(3) An employer shall ensure that all records required to be maintained by this rule shall be made available, upon request, to the director for examination and copying. Employee exposure monitoring records required by this rule shall be provided, upon request, for examination and copying to employees, employee representatives, and the director in accordance with R 325.3451 to R 325.3476. Employee medical records required by this rule shall be provided, upon request, for examination and copying to the subject employee, to anyone having the specific written consent of the subject employee, and to the director in accordance with R 325.3451 to R 325.3476.

(4) An employer shall comply with the requirements involving the transfer of records set forth in R 325.3475. If an employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, then the employer shall notify the director not less than 3 months before disposal and transmit them to the director if required by the director within that period.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77113 Rescinded (date).**

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77114 Appendices.**

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Rule 14. Appendices A, B, C, and D are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.

**R 325.77115 Availability of rules; permission to reproduce.**

Rule 15. (1) Printed copies of these rules are available for inspection and for distribution to the public at no cost at the offices of the Michigan department of consumer and industry services, MIOsha standards division, 7150 Harris Drive, Lansing, Michigan, 48909.

(2) Permission to reproduce any of these documents in full is granted by the director.

History: 1989 MR 7, Eff. Aug. 10, 1989; 2001 MR 6, Eff. Apr. 3, 2001.